WOOLWICH SURVEYS.

S.E.U.S.S.

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A SURVEY AND RECORD OF

WOOLWICH AND WEST KENT.

Containing descriptions and records, brought up-to-date, of the Geology, Botany, Zoology, Archæology and Industries of the district, with a brief Photographic Commentary, in commemoration of the 12th Annual Congress, 1907, of the South Eastern Union of Scientific Societies.

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Brief Reference Indices, etc.—Geology, p. 2; Botany, p. 230; Zoology, pp. 233, 440; Industries, p. 469.

PREFACE.

The Editors have to express their profound regret that unforeseen circumstances have postponed the publication of this volume almost beyond excusable limits. It was originally intended that it should be published in time for the Woolwich Congress (1907) of the South Eastern Union of Scientific Societies, and that it should consist of some 100 to 150 pages, and include a survey of the district from six different approaches, Geology, Botany, Zoology, Archæology, Scientific Industries, and Photography. This, however, was found impracticable; and subsequent delays ensued in consequence of the premature death that closed the promising career of Mr. B. C. Polkinghorne, and the prolonged ill-health of Mr. C. H. Grinling.

The volume now produced differs in important respects from that announced in the original Introduction circulated with sample pages at the Woolwich Congress. The sections on Geology and Scientific Industries are on the plan originally contemplated. The Archæological section, owing to special difficulties, falls short of the original intention. But, on the other hand, very much valuable material was contributed for the Botanical and Zoological sections, and a great opportunity would have been lost if it had not been embodied. These sections have in consequence become greatly extended, and the "Handbook" has grown into a volume of some 600 pages.

It was hoped to insert an introductory chapter by Mr. C. H. Grinling, "Work waiting to be done—a Survey of Surveys," giving an account of the material available for workers for surveys of the district from other aspects than those covered in this volume, particularly on the human and sociological side; as well as pointing out the gaps that remain in the subjects already treated; inviting the research of the local student, and sketching main lines of advance indicated by foremost workers in the different sciences. The publication of this volume has been delayed in order that this

chapter might be included, in the belief that it would have linked together and illuminated the other sections, and have proved a guide and incentive to workers, often scattered and out of touch with one another. The material accumulated through a long period had already been arranged.

When the announcement was made this February, that the "Handbook" would be published in March, Mr. Grinling was better, and he was engaged on the actual writing of the chapter; in fact, it lacked only a week or ten days' work for completion. Then, unfortunately, he broke down again, and was obliged to put aside the work, and he has strongly urged that there should be no further delay in the appearance of the "Handbook." He hopes, however, in the near future, to issue the introductory chapter as a separate publication.

In the meantime, subscribers are earnestly asked to consider the "Handbook," not merely as a record of something accomplished, but as a small contribution towards much useful work still to be done for the systematic study of our Borough and its neighbourhood. The Editors ask for the co-operation of all those interested in any of the subjects covered by this preliminary edition, as well as on subjects omitted, and will at all times welcome correspondence from all workers in their field. In conclusion, they tender their sincere thanks to their many able collaborators for their assistance, at all times most willingly given.

T. A. INGRAM.

ERRATA.

In the Flowering Plants capital letters are not used in the spelling of specific names, but this rule has not been followed in the Lower Plants.

Page 33.—For Rudolf read Adolf and Archegoniata, Archegoniatæ.

Page 39.—For Calk Lit read Chalk Pit; for Alliance III. read Alliance IV., and so on.

Page 40.—For A. K. Bennett read Ar. Bennett.

Page 45, 58, 177, and 190. For *Comb. nov.* read Rendle and Britten.

Page 46.—For Aubretia read Aubrietia and transfer the whole note to the end of the Cruciferæ on p. 63, from which it has been displaced.

Page 57.—For Escholtzia read Eschscholtzia.

Page 65.—For Teesdalea read Teesdalia.

Page 70.—For Roger's read Rogers'.

Page 73.—For ericetrorum read ericetorum.

Page 75.—For procumbens read procumbens, and Nestb., Nestl.

Page 85.—For odorata read odoratus.

Page 87.—Under Oxalis, for fruits read seeds, and for florabunda, floribunda. Under Radiola, delete from "not native" to "cultivation."

Page 91.—For japonica read japonicus.

Page 92.—Impatiens Roylei is the commonly grown or self-sown Impatiens of gardens.

Page 97.—For Thymelecaceæ read Thymelæaceæ.

Page 101.—Under Fatsia insert after annual: "when grown in this country."

Page 105.—For spondylium read sphondylium.

Page 111.—For Cortortæ read Contortæ.

Page 123.—For Lycium barbarum, L., read chinense, Mill.

Page 134.—For Quincywort read Squinancywort.

Page 137, 139.—For Briony read Bryony.

Page 145.—For eructifolius read erucifolius.

Page 153.—For mychorrhiza read mycorrhiza.

Page 170.—For echinochlea read echinochloa.

Page 181.—For fiilformis read filiformis.

Page 200.—For Aulacomnium read Aulacomnion.

Page 214.—For *Gardiner's* read *Gardiners'*.

Page 217.—For coccinia read coccinea.

Page 226.—For Drapanaldia read Draparnaldia, and for incrussata, incrassata.

The Editors of the Botany Section will be glad to receive corrections and criticisms as well as new records or confirmations of old ones.

ERRATA—*continued.*

Page 235.—For tanus read taxus.

Page 250.—For 'nas boscas read Anas.

Page 256.—For Part V. Amphibia read IV.

Page 257.—For pungitus read pungitius.

Page 265.—For sorothamni read sarothamni.

Page 270.—For Neucoridæ read Naucoridæ. For Neucoris read Naucoris.

Page 271.—For Cixius cunicularius read cunicularis.

Page 277.—For Zygina hyperica read hyperici.

Page 278.—Coleoptera : Note explaining the prefixed numbers in the list of beetles, printed on p. 440, should be printed here.

Page 285.—For Agabus stuimi read sturmi.

Page 297.—For Caprophilus striatulus read Coprophilus.

Page 316.—For Clytus arietus read arietis.

Page 322.—For Modellistena brunea read Mordellistena.

Page 329.—For 309 read 3095.

Page 342.—Cosmotric hepotatoria read Cosmotriche potatoria.

Page 357.—For Orthesia lota read Orthosia.

Page 436.—For Baleap erversa read Balea perversa.

Page 451.—After † read "Note the vaulting, etc."

Mr. H. Wallis Kew, who most kindly promised (see page 259) to examine specimens of False Scorpions, has moved from 9, Queen's Road, Bromley, Kent, to 12, Herndon Road, Wandsworth, S.W.

SOUTH EASTERN UNION OF SCIENTIFIC SOCIETIES.

WOOLWICH CONGRESS, 1907.

When the Woolwich invitation was accepted last year by the Council, a local Committtee was at once formed. All workers in the neighbourhood were heartily invited to join, through the Press and such other channels as were available, and the first meeting was held in the Council Chamber of the new Town Hall.

At this meeting a suggestion was launched that **a series of surveys of the Woolwich District should be attempted and a Handbook presented to the Union.** This was no new idea ; it had for some years been germinating in the minds of a few Woolwich workers, and the Woolwich Congress seemed likely to provide a unique opportunity for giving it effect.

At the second meeting of the Committee the following Sections were formed :—

GEOLOGY : *Chairman*, W. Whitaker, B.A., F.R.S., F.G.S. ; *Vice-Chairman*, A. E. Salter, D.Sc., F.G.S. ; *Hon. Secretary*, R. H. Chandler.

BOTANY : *Chairman*, H. S. Bartleet, F.R.H.S. ; *Hon. Secretary*, J. F. Bevis, B.A., B.Sc.

ZOOLOGY : *Chairman*, J. W. Tutt, F.E.S. ; *Hon. Secretary*, H. J. Turner, F.E.S.

ARCHÆOLOGY : *Chairman*, W. T. Vincent (President Woolwich Antiquarian Society) ; *Hon. Secretary*, W. H. Evans, A.R.C.A.

SCIENTIFIC INDUSTRIES : *Chairman*, Alexander Siemens, M.Inst.C.E., M.I.M.E. ; *Vice-Chairman*, T. A. Ingram, M.A., LL.D. ; *Hon. Secretary*, J. Stuart Ker, B.Sc., A.M.I.C.E.

PHOTOGRAPHIC SURVEY : *Chairman*, J. Borthwick Panting, F.R.P.S. ; *Hon. Secretary*, F. W. Machen.

HOSPITALITY AND ENTERTAINMENTS : *Chairman*, J. J. Messent, Ex-Mayor of Woolwich ; *Hon. Secretary*, Alfred Ellis.

The response by the workers of the district was even beyond expectation. Instead of a Handbook of 100 or 150 pages, we had already received double the number, and excellent material was coming in every day, when the Congress itself was due. Publication was necessarily delayed and our Executive Committee had to be content with issuing for the Congress some sample pages instead of the Handbook itself.

The work of each Section will tell its own tale. For it the Sectional Editors and their fellow workers take responsibility. Our own share has been simply to gather up and present the whole. In a final chapter we attempt a survey of surveys and a sketch of **work waiting to be done.**

B. C. POLKINGHORNE,
T. A. INGRAM,
C. H. GRINLING,
} Hon. Editors.

GEOLOGY.

(1) General Remarks .. .. W. Whitaker.
(2) Deep-Seated Beds .. .. R. H. Chandler.
(3) Chalk .. .. G. E. Dibley.
(4) Eocene Tertiaries .. .. A. L. Leach.
(5) Drift .. .. A. E. Salter.
(6) Alluvium .. .. W. Whitaker
(7) Bibliography.. .. R. H. Chandler & W. Whitaker.

GEOLOGY.

Edited by W. Whitaker, B.A., F.R.S., F.G.S.

General Remarks. By W. Whitaker.

The boundaries of the district dealt with in the following notes are the Thames on the north, the Ravensbourne on the west, the Cray on the east, and the outcrop of the Chalk between the last two rivers on the south, near Keston and Farnborough. This roughly triangular area is between 50 and 60 square miles in extent.

The geologic formations that form the surface of the district are, from the most recent downward, the Alluvium of the rivers, the various gravels and loams of the Drift, the London Clay, the Lower London Tertiaries (Blackheath Beds, Woolwich Beds, and Thanet Sand), and the Upper Chalk.

But this series is not geologically continuous, there being a great gap between the London Clay and the Drift, a gap represented in some other parts of the London Basin by the Bagshot and Bracklesham Series and the Crag, and in the Hampshire Basin also by a great set of beds between the Bracklesham Beds and the Crag in age.

Besides these, however, other formations have been proved, by means of deep borings. These comprise the Middle and Lower divisions of the Chalk, and the Gault, beneath which last we again find a great gap, including the whole of the Lower Cretaceous, the Jurassic and Liassic Series, and perhaps also the Triassic and the Carboniferous, a set of red beds of doubtful age being then reached.

The scenery of the district of course depends on the geology, and there are some well-marked features. Beginning at the lowest level is the Alluvial plain of the Thames, due to the deposition by the river of the various constituents of the marshes. Then there is the plateau of Blackheath, Plumstead Common, Bexley, etc., due to the erosion of the London Clay from off the pebble-beds, and the capacity of the latter to withstand erosion, except at the edges, where a sharp slope is generally formed, as is markedly shown by the southern escarpment at and near Keston. In the immediate neighbourhood of Woolwich the crowning feature is Shooter's Hill,

carved out of the London Clay, the preservation of the summit (over 400 feet above Ordnance Datum) being probably aided by the capping of gravel.

Other signs of subaerial erosive forces, chiefly streams, are given by the valleys, cut through the various members of the Tertiary Series, and sometimes down into the Chalk. It is only for a very short distance on the south, indeed, that our district is not bordered by valleys.

Southward, the Chalk crops out from beneath the Tertiary beds, and we then reach the long dip-slope of that formation.

With the exception then of the marsh-flats, the features of the district are due to erosion, guided in places by lines of weakness

2. Deep-Seated Beds. By R. H. Chandler.

The data relating to the rocks at a great depth in our district are scanty. Only two borings pass right through the Chalk (both at Crossness Sewage Outfall Works); but there are three others that must be within about 100 feet of reaching the bottom of the Chalk (at Plumstead Waterworks, at Woolwich Arsenal Laboratory, and at Woolwich Dockyard Sawmills) passing through the following amounts of Chalk, 563, 544 and 588 or more feet.

The older boring at Crossness, made in 1869, passed through the Tertiary Beds, the Chalk (646½ feet) and the Upper Greensand (12 feet), and then 148 feet into the Gault; but as the second boring, made in 1877, went deeper, there is no need to say more.

The following is the section given by the second boring, differing in some details from the first :—

	Thickness in feet.	Depth in feet
Alluvium	21	21
River Gravel	18	39
Woolwich and Reading Beds	47	86
Thanet Sand	51	137
Chalk	631	768
Upper Greensand (probably Chalk Marl in part and Gault in part)	65	833
Gault (clay)	175	1008
Red Rocks (marl, shale, sandstone)	52	1060

Probably the thickness of the Chalk is more truly given in the record of the first boring.

The question of the age of these red rocks has been much debated, as it has a very important bearing upon the possible occurrence of Coal Measures; for if these rocks are of New Red age (Triassic), coal

may be found underneath them, but if they are of Old Red Sandstone (or Devonian) age, the Coal Measures (if they were ever there) have now been eroded away, as the whole of the great Carboniferous Series (of which the Coal Measures form the upper part) comes in between the New Red and the Old Red. It may be well to give some account of this important controversy, as it has a local as well as a general interest, Crossness being one out of the four borings in the London Basin in which these debatable red rocks were found. Sir J. Prestwich (who believed the Kentish Town Red Beds to be Old Red, and we may take those of Crossness as being of the same age) says : " The value of the . . . determination [of Devonian rocks] consists in the fact that in the range of the Carboniferous series through Belgium and the north of France they are everywhere accompanied, on the same strike, by Devonian strata, and the latter strata are constantly brought by great faults and flexures into juxtaposition with the Coal Measures." (1)

In the " Guide to the Geology of London " (2) it is stated " that there is a strong reason against the classification of the bottom beds at Kentish Town and Crossness with the Old Red Sandstone, which seems to have escaped notice. Having the series unmistakably present in the Devonian type at Cheshunt and at Meux's [Tottenham Court Road], it would be strange indeed were it to occur in its wholly distinct Old Red type at Kentish Town, between these two places, and at Crossness, not very many miles from the latter of them ! . . . no such thing is known to occur anywhere ; the two types of what is generally taken to be one great geological system being limited to separate districts, and not occurring together."

Prof. Judd, in 1884, in a paper dealing with the Jurassic Deposits under London, principally based upon the Richmond boring, says : " the possibly high angle of dip of these strata [Red rocks] . . . may appear, at first sight, to afford an argument in favour of the Palæozoic age of the rocks. . . . On the other hand, the presence of disseminated particles of galena, and the considerable proportion of chloride of sodium in the water obtained from these Red rocks at Richmond, are obvious points of analogy with the Triassic strata." (3) This dip may, however, be that of current-bedding, and not of regular bedding.

Prof. Hughes, in the discussion on the above paper, raised a difficulty as to assigning a Triassic age to the red beds, namely, that " nowhere else did an unconformity so marked occur between

(1) *Quart. Journ. Geol. Soc.*, 1878, Vol. XXXIV.

(2) 1880, Ed. 3, p. 21. Repeated in Ed. 4, 1884.

(3) *Quart. Journ. Geol. Soc.*, Vol. XL., p. 751.

the Oolitic and Trias " : or, in other words, beds of the former age had never been seen to rest directly on those of the latter, Liassic beds everywhere coming in between the two.

Against the suggestion " that rocks of the Old Red Sandstone and Devonian type are not likely to occur near together," Mr. H. B. Woodward says that it is " opposed to what is well known in Devonshire," where sandstones and grits occur " nowhere far removed, geographically, from rocks of the Eifelian type. . . . Hence, without committing myself to any definite opinion on the subject, there appears to me no reason why rocks of Old Red Sandstone type . . . should not occur, as well as Devonian strata, under the London Basin." (4) In 1886 appeared a full description of some Kentish deep borings (5), which was accompanied by some " General Remarks on the Deep-seated Geology of the London Basin " (pp. 40–44), in which it was said, of Prof. Hughes' argument against the Triassic age of the red beds, noticed above, " that it applies only to the Richmond section, where the red beds are overlain by a Jurassic deposit. It does not apply to the cases of Kentish Town and Crossness, where the Gault comes next to the red beds. As, in the West of England, Cretaceous beds, overlapping the whole of the Jurassic Series (including the Lias), often rest at once on the Trias, so that a like thing may occur in the London Basin " . . .

Sir J. Prestwich (6) describes the red beds at Crossness as " mottled red grey and greenish hard sandstones and red, slightly calcareous clays " : and continues : " but owing to the small size of the borehole, the specimens were so fragmentary and, as in the case at Kentish Town, so much mixed with débris and fossils from the Gault and Chalk, that their determination was for a time difficult. After however inspecting various specimens . . . and eliminating all the sources of error, I have no doubt of the identity of the beds with those at Kentish Town," which, as we have seen, he considered Old Red. Dr. C. Barrois concluded, from specimens, that these rocks were Triassic. No boring has passed through to the base of the red rocks, so that what may underlie them is merely a matter of supposition ; in all the borings showing Carboniferous or older beds they have been absent, and it remains for them to be found either above or below the Carboniferous Series to satisfactorily settle the question of age.

With the dismissal of the Red Rocks not much remains except to note the remarkable absence of the Lower Greensand, which absence could never have been suspected, the Gault clay proving to be the youngest bed to cross the Palæozoic Ridge. Most of the

(4) *Geol. Mag.*, dec. iii., Vol. III., p. 43 (1886).

(5) *Quart. Journ. Geol. Soc.*, Vol. XLII.

(6) *Quart. Journ. Geol. Soc.*, Vol. XXXIV., p. 908 (1878).

foregoing notes have been taken from Mr. Whitaker's Geological Survey Memoir, "The Geology of London and of Part of the Thames Valley" (2 vols., 1889), to which the reader is referred for a more detailed account of this subject.

3. Chalk. By G. E. Dibley, F.G.S.

In nearly the whole of the district the Chalk is concealed by the overlying Tertiary beds; but it occurs everywhere, and thus forms the ground-floor (so to speak) of the district, and is the source for the water-supply of a large tract, including Woolwich. When the writer resided in Woolwich (1877–83) two pumping stations existed at Charlton, where the Chalk comes close to the surface; and at that time the large pits near Hanging Wood Lane were worked, the chalk being conveyed to a riverside-wharf. At the present day a very small quantity is excavated at the base of the Thanet Sand at Cox's Mount (the point at the level-crossing where the North Kent line enters a short tunnel), and many years ago the Charlton pits and Loampit Hill were frequently visited, as the Chalk yielded a good supply of fossils.

Going eastward, the next section is in the Wickham Valley. The Chalk crops out under Bostal Woods, the top being 60 feet above Ordnance Datum. Continuing eastward, a small exposure is seen at Abbey Wood, while at the Woolwich Co-operative Society's Estate the Chalk is overlaid by about 20 feet of Thanet Sand, and is here worked by a series of tunnels, as at Gregory's Brickyard in Wickham Lane, where the shaft is about 90 feet deep.

Along a line from St. John's Railway Station, where the Chalk crops out, to Abbey Wood and still eastward, the Chalk suddenly disappears to the north, owing to a fault by which the beds have been dislocated and thrown down to the extent of 100 feet. It is worth while to point out the evidence in reference to this down-throw. At St. John's Station, just after passing the end of the up platform, the Thanet Sand is to be seen in place faulted against the Chalk. At Westcombe Park the North Kent line is laid upon the top of the Chalk, and continues so to a point just east of Cox's Mount. Wells and borings north of the line mentioned above prove a considerable thickness of Tertiary beds beneath Alluvium or gravel.

So much for the northern limit of the Chalk, and we now turn our attention to the eastern side. Commencing from the Darent, whose interesting valley and source do not come within the scope of this paper, we proceed westward from Dartford over the outcrop of the Chalk to Crayford, where the Chalk dips northward, being covered by the Tertiary and Pleistocene beds, described further on.

As regards the western portion of the area, very little Chalk is exposed. In the extreme south-west, at Keston, just after emerging from Holwood Park the Chalk again appears, and at once gives the characteristic features to the scenery. About a quarter of a mile from the Park on the Westerham road, there is an interesting chalk-pit, known as Leaves Green Pit.

Proceeding from Keston Church toward Farnborough, small exposures of chalk are seen in the roadsides.

Before describing the Chalk forming the southern limit it will be worth while to draw attention to what has been done in zoning the Chalk during the past 25 years. Before this time the Chalk of England was described as Lower, Middle and Upper Chalk (names still useful in a broad sense). About 1870 Dr. Charles Barrois, a celebrated French geologist, paid a short visit to this country for the express purpose of correlating the English Chalk with that of France, as regards the fauna; and the English Chalk was zoned by him according to the life-bands, as marked by dominant fossils. Now the Chalk has been zoned from bottom to top. This work has been done in an admirable manner along the coast by Dr. Rowe, of Margate, and Mr. C. D. Sherborne, who have inspired others to take up the work in inland districts.

In former days the chalk exposed in our district would have been regarded as the uppermost part of the Upper Chalk, whereas we now know that it forms the lowest division of the Upper Chalk, which is here characterised by the typical sea-urchin Micraster cor-anguinum and other echinoderms, such as Echinocorys scutatus and Conulus albogalerus (formerly known as Ananchytes ovatus and Galerites albogalerus). Beautiful forms of the Cidaridæ, Cyphosoma, and other Echinoids characterise this Chalk which is known as belonging to the Micraster cor-anguinum zone. It must be about 200 feet thick here.

This zone is followed upward on the Kentish and Sussex coasts by zones marked by the presence of two interesting forms of Crinoids (a group or division of the Echinodermata), one (the Uintacrinus) being very small, and which escaped attention in this country till brought to light by Dr. Rowe. This fossil, unfortunately, is found, as in the case of the Cidaridæ, in the form of detached plates and arm-ossicles, so small that they are very likely to be overlooked by the collector. This band is of no great thickness, and is succeeded upward by Chalk containing another Crinoid, the Marsupite, whose large plates cannot fail to attract the eye.

This zone is followed by others, but, as the Woolwich district does not contain these upper zones, there is no necessity to say more of them. Till last April the writer (who has zoned the extensive chalk-pits in the Rochester, Gravesend, Dartford, Charl-

ton, and part of the Croydon areas) was unacquainted with the existence of any Chalk in this district higher than the MICRASTER COR-ANGUINUM zone.

Owing to an accident last year his work of exploration was hindered, but now the Congress may be congratulated that, owing to having selected Woolwich as their centre this year, the writer, in order to give an accurate description, has recently visited new localities for the express purpose of examining the Chalk immediately underlying the Tertiaries or in their near neighbourhood, and has discovered, for the first time, the zone of UINTACRINUS in this district.

Turning to our southern boundary, we have at Keston the same zone as at Charlton, Wickham, Abbey Wood, and Dartford; that of MICRASTER COR-ANGUINUM.

At Orpington, in a field to the north-east of the Church, there is a small exposure about 30 feet long and about 12 feet deep, showing a very soft and creamy white chalk almost destitute of flints which has yielded the UINTACRINUS plates and ossicles previously mentioned. Associated with these the writer found MICRASTER COR-ANGUINUM and a portion of ACTINOCAMAX VERUS. At Foots Cray there is a large pit on the Farningham Road in the MICRASTER COR-ANGUINUM Chalk.

The Chalk underlying the Thanet Sand at Dartford, and in the neighbourhood, has been repeatedly examined by the writer and by Mr. Sherborn, but has yielded no indication of a higher zone than that of MICRASTER COR-ANGUINUM.

Continuing south towards the escarpment (with which tract, however, we are not specially concerned), the succeeding lower zones are met with, and shown in the railway-cuttings and large pits at Poll Hill (Dunton Green) and Otford, where formerly large lime-works existed in the HOLASTER SUBGLOBOSUS zone (Lower Chalk). The Darent at this point has carved its course through the zone of HOLASTER SUBGLOBOSUS, the ACTINOCAMAX PLENA Marls, and the following zones of the Middle Chalk:—RHYNCHONELLA CUVIERI, TEREBRATULINA GRACILIS, HOLASTER PLANUS, and MICRASTER COR-TESTUDINARIUM. This last being succeeded by the Micraster cor-anguinum and Uintacrinus zones of the Upper Chalk, the lithological character of which differs from that of the lower beds, the latter being harder, nodular, frequently gritty, and below the T. gracilis zone, destitute of flints. On the other hand, flints are abundant in the Upper Chalk, except in the Uintacrinus zone. The chalk of both the uppermost zones is very soft and easily worked; so that the removal of the matrix from the fossils is easy, and this frequently suggests the zone.

The chalk of the zone of MICRASTER COR-ANGUINUM at Abbey Wood, Wickham, Charlton, Westcombe Park, Keston, and Downe, contains beautiful fossils, which require a considerable amount of patience on the part of the worker before he can be said to possess a typical collection. The parts worked by the author at Westcombe Park are now covered by railway-works. The fauna of the above exposures is identical with that of Gravesend which marks the upper part of the M. COR-ANGUINUM zone, containing the Belemnite remains, ACTINOCAMAX VERUS and A. GRANULATUS.

A few words respecting the flints may be of interest. At Westcombe Park many of them are hollow and contain much chalcedony. Occasionally beautiful nodules are met with having stalactitic chalcedony. At Keston many of the nodules exhibit a surface (always upon a fractured end) of minute mammillated chalcedony, light-blue and arranged in an agatiform manner. At Cox's Mount the writer has taken from the chalk immediately underlying the Thanet Sand green-coated casts of Echinoderms, in an upright position, the test having been dissolved by the action of water percolating through the overlying sand.

Messrs. Leach, Polkinghorne and Chandler have paid great attention to the Chalk at Wickham and Abbey Wood, and a list of the fossils has been published in Proc. Geol. Assoc., vol. xix., p. 345. In their report of an excursion here, Dr. Rowe gives it as his opinion (in the absence of Micrasters) that, judging by the other fossils, the Chalk belongs to the zone of M. COR-ANGUINUM. Mr. Leach, in a letter to the writer, says: "I have since found an excellent specimen of the zone-fossil." The writer had obtained one previously, though unknown to Mr. Leach, also an excellent specimen of CONULUS ALBOGALERUS and other fossils that, in the absence of UINTACRINUS and MARSUPITES, left no doubt in the writer's mind as to the age of this Chalk.

Unfortunately, nearly the whole of the Chalk in our district is subterranean, and it is only from information given by deep excavations, such as the present sewerage-works, that knowledge of its distribution can be gained.

4. EOCENE TERTIARIES. BY A. L. LEACH.

Introductory Note.

The district is practically encircled by the Drift-deposits of the Thames, Cray and Ravensbourne, but *within* the area the older Tertiary beds form nearly the whole surface. The London Clay occupies perhaps a third of this surface, and the Blackheath pebble-

beds the greater part of the remainder. Rising nearly 200 feet above the Thames Alluvium, the Blackheath Beds form the pebbly plateau on which Bostal Heath, Plumstead Common, Woolwich Common, Blackheath, and Greenwich Park stretch for seven miles as an almost continuous belt of heath and common-land. The edge of this plateau is crenated by valleys in every stage of formation : some are mere hollows in the Blackheath Beds ; others cut down into the Woolwich loams (e.g The Slade) ; a more advanced stage is exemplified in the East Wickham Valley, where the stream has eroded its bed through the Tertiaries into the Chalk.

South of the pebble-plateau lie several large areas of London Clay, which at Shooter's Hill rises to 400 feet above O.D. From Chiselhurst and Bromley the Tertiaries rise gently southward until they are cut off by erosion at the outcrop of the Chalk.

General Sections.

The Woolwich district is fortunate in containing within its area some of the finest sections of the London Tertiaries that can be found within the whole London Basin. The great pits at Charlton still show the complete succession from the Chalk to the Blackheath Beds, and by the continued removal of vast quantities of sand the detailed structure of the beds is laid bare in fresh sections. The well-known section at Loam-pit Hill, Lewisham, is now obscured by rubbish, but the Erith pits remain good, and in recent years some excellent and very extensive sections in the little valley below East Wickham have clearly shown the whole series from the Chalk upward.

Full descriptions of the sections at Charlton, Lewisham, Erith, St. Mary Cray, with lists of fossils and a valuable digest of the literature relating to the London Tertiaries, will be found in the Memoir issued by the Geological Survey (7), which is a mine of information on all matters relating to these beds. Mr Whitaker's "Guide to the Geology of London" will be found very useful as an introduction to the larger volumes

In the East Wickham Valley, Woolwich loams and Pleistocene Drifts are largely excavated for brick-making. In the very extensive sections now open the whole of the local Tertiary series may be examined. As the section shows several features of interest, it is here given in detail for comparison with the published descriptions of Charlton, Erith, etc.

(7) The Geology of London and of Part of the Thames Valley, 2 vols. 1889.

Section in the Cemetery Brickfield, 1906.

The figure is reproduced by the kindness of the Council of the Geologists' Association.

a. 0–5 ft. Blackheath pebble-bed.

b. 5–7 ft. Thinly and evenly bedded sands with thin clay-partings.

c. 8 ft. Light-coloured sands with thin clay-partings.

d. 6 ft. Stiff, dark clay, with CYRENA, OSTREA, etc.

e. 10 ft. Fine light-grey sand, very compact; in the lower part thin clay-partings appear.

f. 13 ft. Stiff greenish loam with a few widely scattered pebbles; the bottom part becomes more clayey.

g. 6 in. Irregular bed of small rounded flint pebbles splashed into the underlying sand.

WOOLWICH BEDS.

h. 56 ft. Fine white sand.

i. 6 in. to 1 ft. "Bull head" bed, green-coated flints and ferruginous clayey material.

THANET SAND.

k. Chalk.

The thinly bedded orange-coloured, brown and yellow sands (b and c), with alternating clays, make a very striking section in the upper part of the pit. Further notes on the East Wickham Valley sections are given in Proc. Geol. Assoc., vol. xix., part 9, 1906.

Thanet Sand.

The lowest division of the local Tertiaries is well exposed at Charlton, Wickham Lane, Erith, Chiselhurst, and in many of the pits near Crayford. Wherever it is seen in section with the Chalk a very marked feature is the constant occurrence, at its base, of a layer of green-coated flints, often very large, embedded in a dark sandy and ferruginous clay, which rests immediately on an almost even surface of chalk. The flints in this base-bed, or "Bull-head," are very rarely abraded. A very few ovoid pebbles occur, but the bulk of the flints retain the characteristic outlines of fresh chalk-flints The formation of this bed of green-coated flints at the base of the Thanet Sand is now generally admitted to be due to the solvent action of percolating water charged with carbonic acid. The chalk has passed away in solution, leaving, as an insoluble residue, its flints, together with the ferruginous and clayey matter, which forms a considerable part of the Bull-head.

For a few feet above its base the Thanet Sand is usually tinged green by glauconitic matter. The bulk of the deposit is a fine-grained, light-coloured, clean quartz-sand, so firmly bedded as to stand upright in section even when exposed to the weather for years. In thickness it varies from 40 feet at Charlton to 56 at the sand-pit in King's Highway. Although a marine sand, it rarely yields fossils in this locality. At Charlton PHOLADOMYA FICOIDEA and PHOLADOMYA MARGARITACEA occur in the form of internal sand-casts from which every trace of the shell has disappeared. At Plumstead Station, in 1887, Mr. J. G. Goodchild found CARDIUM, CYPRINA and other shells in a hardened mass of sand (8).

An analysis of Thanet Sand will be found in the "Geology of London." It is very largely used in glass and pottery manufacture and as a moulding-sand. Woolwich Arsenal is said to owe its establishment to the presence of this sand, which was found highly suitable for iron-moulding.

In addition to the exposures already mentioned, good sections may be seen in the numerous pits bordering Wickham Lane, and at several places on the western slope of the Cray Valley. The outcrop of the Thanet Sand is usually too narrow to exhibit any special scenic features, but where the roads from Chiselhurst to the Cray

(8) See Geology of London, Vol. I., p. 108.

villages pass over a broader outcrop they become deep, shady lanes, very delightful in summer and affording a welcome relief from the open tracks on the heaths above.

Woolwich Beds.

Sir J. Prestwich adopted the name Woolwich and Reading Beds for the middle member of the Lower London Tertiaries, including under this term two types of contemporaneous sediments Beds of the true Reading type do not occur within our limits ; the Woolwich Beds, characterised by loams and fossiliferous clays are, as the name indicates, here well developed.

Within our area the Woolwich Beds always rest on Thanet Sand of fair thickness (40 feet or more). At the base a layer of small flint pebbles is generally present, as at Charlton, Erith, and Wickham Lane. In this last locality, where the pebbles are thinly scattered and splashed into the Thanet Sand, the base can be traced along fully 400 yards of section (9).

Above the pebbles lies a greenish loam, coloured by glauconitic matter, and often containing ferruginous concretions. The loams, sands, shelly clays, and thinly-bedded clays and sands of the upper Woolwich Beds are all admirably shown in the fine section near the Woolwich Cemetery. (See *General Sections*).

Besides the well-known sections at Charlton and Erith, good exposures occur at the N.E. corner of Plumstead Common, and in the Wickham Lane Brickfields. In all these the shelly clays are found, but notably at Charlton. A small roadside-section at Knee Hill shows the green loam resting on an unusually irregular surface of Thanet Sand.

Full lists of the fossils of the Woolwich Beds are given in the "Geology of London," Vol. i.

Blackheath Beds.

In our district this term denotes the sandy and pebbly beds lying between the Woolwich Beds and the London Clay. Before the deposition of the Blackheath Beds the Woolwich loams and clays suffered unequal erosion, by which troughs were scooped almost, if not quite, through the whole thickness of the Woolwich Beds. It thus comes about that the Blackheath Beds are found resting on any and every part of the Woolwich Series from the green loams up to the laminated clays. A very striking instance of this troughing may be seen in the sand-pit on Plumstead Common, opposite the Woolwich Cemetery. Here the Blackheath pebble-

(9) *Proc. Geol. Assoc.*, Vol. XIX., pt. 6, p. 346.

beds rest on the bottom-bed of the Woolwich loams, which are barely 10 feet thick, while in the opposite brickfield, 200 yards away, at least 40 feet of Woolwich Beds underlie the Blackheath pebbles.

In thickness the Blackheath Beds are the least considerable of the local Tertiaries, yet their highly permeable nature has enabled them to resist denudation to such an extent that they cover fully two-thirds of the area and impart to the scenery and vegetation a characteristic aspect. The dry, pebbly heaths and commons of Plumstead, Chiselhurst, Keston, Hayes, Bostal Heath, and Blackheath derive no small part of their beauty from the silver birches, Scotch firs, heather, gorse, and broom which thrive upon the Blackheath pebble-beds.

In addition to the sections already noticed, Blackheath Beds are well displayed at the following places :—

Plumstead Common (N.E. corner) : about 20 feet of light-coloured sands, capped by a thick pebble-bed, rest on a denuded surface of Woolwich clays. A few shells occur, mostly broken. Many of the pebbles, as was first noticed by Mr. Chandler, are dented by mutual pressure ; some are even crushed, others show white spots at the points of contact. The pittings and white spots may be due to abrasion during slow movements caused by expansion and contraction of the beds under changes of temperature and of saturation ; but this hardly seems to explain the crushing of tough flint-pebbles.

Bostal Hill (roadside-section) : sands and pebbles.

Belvedere : section of the pebble-bed.

Keston : several good sections on the Common.

Probably the finest and most interesting section was that shown during the construction of a new road from Well Hall into Eltham in June, 1905. Only the decalcified shell-bed can now be seen, and this is rapidly becoming overgrown. The details given below were noted when the section was open to the bottom of the sewer-trenches.

Soil passing into brownish-red sand with pebbles, 1—3 feet.

Irregular bed of coarse pebbly sand with crushed shelly material, all showing signs of movement after partial decalcification. The lower part consists of a band of Ostrea (chiefly O. tenera), 2 –4 feet.

Pebbly sand with Ostrea, Cyrena, etc., 2 feet.

Shelly sand showing false-bedding, 2 feet.

Strongly marked conglomerate of pebbles and Ostrea, 2 feet.

Light-coloured shelly sands, false-bedded, 3 feet.

Very hard conglomerate with Ostrea bellovacina, 2 feet.

Sand with shells and few pebbles (base not seen), 3 feet.

This section, which showed very clearly the rapid lateral variation of the Blackheath Beds, as regards composition and thickness of individual layers, yielded a vast number of fish-teeth (Odontaspis elegans) at least 5,000 having been obtained by one collector (10). The upper shell-bed showed in horizontal section as a succession of shelly ridges alternating with troughs filled with pebbles, a structure apparently due to irregular decalcification of the shell-bed and the descent of the pebble-bed into the hollows left by removal of the shelly material. The summits and sides of the ridges were outlined by layers of crushed shells arranged parallel to the slope of each ridge by the pressure of the descending pebbles. It is, however, possible even probable, that some of the ridges and furrows are due to subaerial erosion and stream-action.

On Plumstead Common a huge block of Blackheath conglomerate (locally known as Plum-pudding Rock) stands on the slope of an old gravel-pit which has been converted into a shrubbery. Calcareous conglomerates, crowded with shells, occur at Charlton, but the Plumstead Common specimen is remarkable for its size. No shells have been noticed in it.

London Clay.

The London Clay forms the mass of Shooter's Hill (rising therein to a height of 400 feet above O.D.) covers several square miles south of Eltham and Lee, and appears also in scattered outliers varying from a square mile or more in area down to a few square yards. The London Clay rests always on Blackheath Beds, yet the actual junction is seldom clearly shown in section. It has recently been seen in some small excavations near Eltham Park, and it may be detected in the deep railway-cutting made for the Bexley Heath branch of the S.E.R.

Although the slopes of the cutting are now nearly overgrown, the junction is plainly marked by a line of little cones of yellow sand thrown out immediately below the London Clay by small burrowing animals. The following section of the junction was noted in an adjacent brickfield north of the railway, in April, 1906 :—

London Clay	Brown clay, 3½ feet.
	Green clayey sand with a few pebbles, 2½ feet.
	Small pebbles very closely packed, 1½ feet.
Blackheath Beds	Thinly-bedded sand and clay, 2 feet.
	Fine white sand, 1 foot.

(10) J. L. Foucar, *Trans. W. Kent Nat. Hist. Soc.*, 1906.

A trench opened in May, 1905, at the corner of Well Hall Road and Shooter's Hill Road showed :—

Brown London Clay, 3 feet.

Closely packed pebbles, 3 feet.

The basement-bed of the London Clay appears to be unfossiliferous in this district.

The thickness of the clay at Shooter's Hill is about 200 feet : this is barely half the thickness shown in other parts of the London Basin, but the presence of a Drift gravel on top of the hill shows that the full thickness is not preserved.

Sections in the London Clay lack the variety which adds so greatly to the interest of the Lower London Tertiaries. There are many exposures in brickfields and temporary excavations for sewers, etc., but the best section now open is that on the northern shoulder of Shooter's Hill. Here about 15 feet of stiff clay is shown with large septarian nodules. In a trench in Eaglesfield Road, in 1902, the septaria yielded a few specimens of Modiola and Corbula. No other fossils are recorded from Shooter's Hill. A few long slender crystals of selenite were obtained in the same trench.

5. Drift, etc. By A. E. Salter, D.Sc., F.G.S.

The area dealt with consists of the lower parts of the Darenth and Ravensbourne valleys and the country between them. Reference is also made to the important Drift deposits found near Swanscombe and Northfleet, which, although outside the area, are intimately connected with it.

High Level Drift.

The highest and presumably oldest Drifts are found capping the Tertiary deposits at Well Hill, near Chelsfield, 610 feet above O.D. ; at Shooter's Hill, 424 feet above O.D. ; and at Swanscombe Hill, 320 feet above O.D.

At Well Hill, on the water-parting of the Cray and the Darenth, is a thin gravel consisting principally of flint, but containing also a fair number of Lower Greensand chert-fragments, and small pebbles of rose-coloured, milky and transparent quartz, derived from older strata in the Wealden area. Mr. Russell Larkby (11)

(11) *Antiquary*, March and April, 1905. *Proc. Geol. Assoc.*, Vol. XIX., p. 235.

has paid much attention to this deposit. Numerous eoliths have been obtained by him from the immediate neighbourhood of the gravel. At Cockerhurst Farm, 470 feet above O.D., he also was successful in finding implements of a primitive type, some of which were striated.

The gravel and sand deposit on the summit of Shooter's Hill has been studied by Trimmer, Goodchild, Whitaker, Spurrell, Prestwich, and others (12).

Recently it has been visited by the Geologists' Association (Proc. Geol. Assoc., vol. XIX., p. 103), and the various cuttings made for electric light cables have been carefully studied by Mr. A. L. Leach, from whose notes I obtain the following information :—

The trenches opened for electric light cables to Eltham showed sections of the gravel-cap from the northern slope of the hill, along Shrewsbury Lane to the Bull, and thence down the Shooter's Hill Road to the corner of Well Hall Road.

N. Slope.—Gravel-cap begins just above the 400-feet contour on the Ordnance Map, but there is a distinct trail of pebbles for a long way down the slope.

Summit.—The Trenches from about 400 feet above O.D. showed the base of the gravel-cap for about 400 yards along Shrewsbury Lane ; onward to the Bull the trenches were entirely in the cap, and the London Clay was not again touched until about 100 yards above Christ Church.

N.W. Slope.—Thence to the foot of the hill the cutting was in London Clay, but a distinct run of pebbles lay over the Clay down to the Fire Station.

Junction with London Clay.—In Shrewsbury Lane the cap rests on a slightly irregular surface of London Clay, which, in its upper layers, becomes lighter in colour and more sandy in feature ; in some places the sandy London Clay passes imperceptibly into the sandy gravel-cap ; in other places the clayey gravel cuts distinctly into the London Clay. No bedding was seen anywhere : the sand and gravel are never stratified clearly like the Crayford and Dartford deposits.

Sand.—Generally coarse, yellow to red and very dark red, red, and usually clayey. Opposite the Bull a bed of fine clean yellow sand, not of great extent.

Pebbles.—Rarely 6 inches long, mostly not exceeding 2 or 3 ; well rounded : forming irregular pockets in the sand, never an even continuous bed.

(12) *Quart. Journ. Geol. Soc.*, 1853, Vol. IX. *Proc. Geol. Assoc.*, 1885, Vol. IX. Geology of London, 1889. *Rept. W. Kent. Nat. Hist Soc.*, 1886. *Quart. Journ. Geol. Soc.*, Vol. XLVI., pp. 162–6. *Proc. Geol. Assoc.*, Vol. XIX., p. 8.

Thickness.—From N. end of Shrewsbury Lane increases from one foot to about 8 feet; over most of the hill-top the thickness appears to be 8 to 10 feet; toward the Bull the thickness is greater, and going down to the N.W. slope it is at least 20 feet. On this part of the hill the cap is a coarse red clayey sand, very full of pebbles.

N.W. Slope.—The thick cap ends pretty sharply a few yards above the well-known medicinal well. In the trench the base of the cap was a yellow clayey sand (no pebbles) 2 or 3 feet thick, which passed into London Clay, light in colour.

Exposures on Summit.—The numerous pits opened E. of Shrewsbury Lane for sand, house foundations, etc., all show sand and pebbles usually much cleaner (less clayey) than the deposit N.W. of the Bull.

The pebbles are (1) Rounded flints. (2) Flints with much weathered surfaces; when split these show very striking zones of alteration due to infiltration and weathering. Mr Leach has a good collection and considers them most interesting: he has not found anything quite like them in any other gravels. (3) Quartz: small pebbles, not common. (4) Chert: ditto. (5) Hard dark red ferruginous sandstone not common. Mr. Leach has a few lumps which look like Lower Greensand material, but are not quite so dense as the ironstone from the Folkestone Beds. (6) Dark Lydian stone (?) with quartz veinings, not common. No trace of worked flints. Mr. Leach has gone over many tons of the pebbles during the last four years, but has never seen any sign of a flake, except some rough neolithic chips. No trace of shells, bones, or derivative fossils.

On Swanscombe Hill there is a spread of gravel, but no section. It consists chiefly of flint-debris, but a good deal of Lower Greensand chert is found. Mr. A. S. Kennard has found Flint implements belonging to his Hill Group here (13).

Those who wish to obtain a wider acquaintance with these High Level Drift Deposits should compare them with those found at high elevations in Southern Essex, *e.g.*, Havering-atte-Bower, Langdon Hills, Rayleigh Hills, etc.

High Terrace Deposits.

The scanty character, high elevation, simple nature of the constituent rocks and the apparent connection with a system of drainage lying north or north-east of the present Thames, mark off the High Level Drifts from the Drift deposits now to be described.

At Dartford Heath, 136 feet above O.D., are found extensive deposits consisting mainly of flint in various forms, but also of a

(13) *Proc. Geol. Assoc.*, Vol. XIX., p. 76.

small number of far-travelled rocks, some of which can be traced right across the Thames Basin and beyond. Mr. A. L. Leach and Mr. R. H. Chandler have collected several of these, and slices cut from them are at present under microscopical investigation.

The best section is that shown at Wansant Farm, near Crayford Station. It is as follows :—

Gravel with Implements, 10 feet.
False-bedded sands and gravel, 20 feet.
Unstratified gravel, 10 feet.

Messrs. Hinton and Kennard (14) class the implements found here as of Acheulian types. For further information see F. C. J. Spurrell, Excursions to Dartford Heath, Proc. Geol. Assoc., vol. XIII., p. 70, and vol. XVIII., p. 165.

There are also sections in the High Terrace Gravels near Northfleet, at Milton Street, Galley Hill, etc.

Some few years ago a most important section at Milton Street, about 100 feet above O.D., was described by Mr. H. Stopes. Large numbers of NERITINA FLUVIATILIS, etc., were found associated with a Pleistocene fauna and worked flints (15).

The finding of a human skull, etc., associated with flint implements, at Galley Hill by Mr. R. Elliott, has been fully described by Mr. E. T. Newton (16).

The gravels in this area are composed principally of flint, but pebbles of Bunter quartzite, quartz, etc., are far from rare. A moderate amount of Lower Greensand chert from the Wealden area is also present.

Recently much valuable work has been done in this locality by Mr. James Cross, of Camberwell, who has presented a much-appreciated and extensive series of implements from the Northfleet area to the Edinburgh Museum. Messrs. Hinton and Kennard class the implements from this locality as belonging to Acheulian types (17).

The Crayford Brickearths, etc.

The Drift deposits exposed in several sections between Erith and Clayford have for many years been a source of great interest to geologists. The Brickearth, with its associated sandy and pebbly

(14) *Proc. Geol. Assoc.*, Vol. XIX.

(15) *Journ. Anthrop. Inst.*, Vol. XXIX., pp. 302—3, and *Proc. Geol. Assoc.*, Vol. XVII., p. 138.

(16) *Quart. Journ. Geol. Soc.*, 1895, Vol. LI., p. 505, and *Proc. Geol. Assoc.*, 1896 Vol. XIV., p. 305.

(17) *Proc. Geol. Assoc.*, Vol. XIX.

layers, which are very variable in extent and thickness, is banked up against an old river-cliff consisting of Chalk and Tertiary beds. In places the shells from these older formations, and large blocks from indurated beds in them, occur as derived specimens in the Brickearth. Messrs. A. L. Leach and R. H. Chandler have recently studied these beds in detail for a considerable time, and the remarks following are mainly from their notes (18). The well-known CORBICULA FLUMINALIS band has been traced by them over a large part of the Brickearth-area, but the shells are not always abundant. Messrs. Hinton and Kennard regard the implements found in these beds as of Mousterian type.

The large old pit (Stoneham's) near Crayford, from which Prof. Dawkins obtained the skull of OVIBOS MOSCHATUS, and Mr. F. C. J. Spurrell discovered the Palæolithic Floor, is now worked out. The CORBICULA band can, however, still be well seen.

At Rutter's Pit, on the western side of the road from Crayford to Erith, and connected by a tunnel to a large pit on the eastern side, a curious conglomerate has been found at the base of the Brickearth. It consists of rolled and unrolled flints, cemented together by a calcareous concretion known as "race." Pebbles of quartz, sandstone, and quartzite also occur in it. Many of the flints are very dark, and one of these gave evidence of being worked. Many bones of the larger Pleistocene Mammalia have been obtained from the Brickearth. As recently as February 10th, 1907, Mr. Chandler saw a portion of a tusk 5 inches in diameter, in addition to several other large bones in place.

The Corbicula-layer has yielded many fine specimens of CORBICULA FLUMINALIS, BYTHINIA, PISIDIUM, PLANORBIS, HELIX, VALVATA, UNIO, and ANODONTA. CYPRIDS and CHARA have also been detected above the tunnel in the eastern side of the road.

Above the Brickearth is a contorted layer of gravel, brickearth, etc., termed "trail." It is well shown in this pit, and has been attributed to ice-action, and partly to ice-movement and partly to rain-wash over frozen soil (19).

At Norris's Pit, which lies nearer to Erith than Rutter's, on the western side of the road, is another fine series of sections showing the Brickearth cut back to the old river-cliff. The Brickearth in places is crowded with remanié Tertiary shells, MELANIA, CERITHIUM, and CYRENA from the Woolwich and Reading Beds being plentiful. Large blocks, too, of shelly conglomerate occur, probably derived from the Blackheath Beds, which occur in place to the west. Some

(18) *Proc. Geol. Assoc.*, Vol. XIX., p. 137, and Vol. XVIII., p. 165.

(19) *Proc. Geol. Assoc.*, Vol. XVIII.

of these are 3 ft. by 2 ft by 18 ins., and contain specimens of Fusus, Aporrhais, Calyptræa, Natica, Cyprina, Panopœa, and Pectunculus.

A representative section noted by Mr. Chandler was as follows :—

Sandy clay and clayey sand with bones, 25 to 30 feet.
Clay with bones and worked flakes, 4 to 6 feet.
Corbicula-layer, 6 inches.
Sand to base, 7 to 9 feet.

The bones obtained from this pit were those of Elephas primigenius (mammoth) Bos, Equus, Rhinoceros, Cervus (?)

In the Corbicula-layer the following have been obtained :— Cyrena fluminalis, Planorbis, Valvata, Ancylus, Limnea, Helix, Pupa, Bythinia, Cyprids, Slug (?), Chara (?) Unio littoralis (which can be obtained entire ; in the other pits they are usually broken), Anodonta cygnea, Vallonia pulchella, teeth and small bones of rodents, etc.

At Furner's Pits, near Slade Green, the Rev. O. Fisher obtained, in 1870 (1872 ?), the first worked flake found in the Crayford deposits.

Mr. Chandler's generalised sections are as follows :—

First Pit.	Second Pit.
Soil with irregular base, 18 inches	1 foot.
Trail, Pebbles and Clay in patches, very contorted 4 to 7 feet	2 feet.
Sandy clay with bones, 10 feet	7 feet.
Fine sand and gravel, very false bedded, ironstained in places. 10 feet	20 feet.

Blocks of light-grey sandstone with pebbles, and over two cwt. in weight, occur in this pit. The pebbles seem to be derived from gravels equivalent to those on Dartford Heath, and consist (besides flint) of sandstone, quartzite, Sarsen, Bunter pebbles, quartz, jasperoid flint, and Lower Greensand chert. Pieces of igneous rock are present, and a pebble of Carboniferous Limestone with Lithostrotion has been found (20). No Corbicula-bands can be seen now, but were formerly noticed, as the Rev. O. Fisher records that the flake he found came from below them.

At Buckley's Pit, The Avenue, Erith, large irregular sarsens are found in Drift, which consists of false-bedded sand and layers of flint-gravel 15 to 20 feet thick. A block of vein-quartz weighing over 20 lbs. has been found here.

(20) *Proc. Geol. Assoc.*, Vol. XV., p. 110.

Lower Terrace Gravels, etc.

Messrs. Hinton and Kennard in their recent paper refer to a fourth terrace at 20 feet above O.D. (21), and draw attention to what they consider to be evidence of a buried channel below the bed of the river. Further local information on this is desirable. Some of the depths given are as follows, in feet :—Limehouse, 49 ; Belvedere, 50 ; Crossness, 71½ ; Greenhithe, 50 ; Northfleet, 72½.

East Wickham Valley.

From Erith to the East Wickham Valley the Tertiary escarpment is unbroken, although several very deep coombes have cut their way back some distance, and can be well seen on Bostal Heath and along the road to Belvedere.

Rain falling on the extensive sheet of Blackheath Pebble Beds is arrested in its downward progress through the earth by the clayey beds of the Woolwich and Reading Series, and a set of springs along their outcrop is the result.

The East Wickham Valley is really a coombe which has been so well developed, that it has captured the drainage of the London Clay district to the West. A full account of the deposits now to be seen in this valley has been recently written by Mr. A. L. Leach, to which further reference should be made (22).

Recent excavations show sections of small streams which have become completely blocked up by re-deposited clay, etc., resulting from the denudation of the London Clay country drained by the streams. Good examples of hill-creep and contortions due to pressure are to be seen, and are well worthy of study.

The Ravensbourne.

The Darenth cuts through the Chalk escarpment near Otford, and has its head-waters in the Lower Greensand hills beyond. The Ravensbourne, however, does not do this, but rises on the Northern Slopes of the North Downs. In consequence of this the Drift deposits connected with it contain only debris from the Chalk and Tertiary strata.

A good idea of the extent to which erosion has acted in this valley can be obtained by standing on the Hilly Fields Recreation Ground, Brockley, and looking across to Blackheath. Up to quite recently a good section in Old Ravensbourne gravel was exposed between Undercliff and Overcliff Road, Lewisham, and it is very probable

(21) *Proc. Geol. Assoc.*, Vol. XIX., pp. 76, etc.

(22) *Proc. Geol. Assoc.*, Vol. XIX., p. 341.

that the Palœolithic implement found in Wickham Road, Brockley, by Mr. A. Lewis, in 1874, came from a continuation of this terrace (23).

The deposits of an old stream which formerly flowed from Shooter's Hill, by Morden College, Blackheath, and Belmont Hill, and joined the Quaggy close to its junction with the Ravensbourne, were recently exposed on the Belmont Hill Estate (24). They exhibited contorted and other structures due to slipping and to the solution of the Chalk which lies below.

There is a good section in the old Ravensbourne gravels at West Wickham, near Hayes Station, which has recently yielded many bones of Pleistocene mammalia to Mr. W. H. Griffin and others, as reported by him to the last Congress (25).

Many palœoliths also occur at West Wickham, and have been described by Mr. G. Clinch (26) and others.

6. Alluvium. By W. W.

Of the deposit of the rivers there is little to say. It consists of silt or mud, which has solidified into marsh-clay ; but in the case of the Thames this is notably varied by the intercalation of layers of peat, made up of vegetable matter which has, to a large extent, grown on the spot. Rootlets occur, and also trunks of trees ; and it is clear that these trees cannot have grown under water (they are now beneath the level of high tide), but must have flourished when the land was at a slightly higher level than now. This is the latest that we have of evidence of change in the level of the land.

Fine sections of the peat and its associated deposits were seen at Crossness Sewage Works, and along the line of the great sewer across the marshes to that place.

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BOTANY.

THE FLORA OF WOOLWICH AND WEST KENT.

(Districts 1 and 2 of Hanbury and Marshall's Flora.)

Edited by J. F. Bevis, B.A., B.Sc., Woolwich Polytechnic, and
W. H. Griffin, Hon. Sec., Catford and District Natural History Society.

Preface.

The present work is based upon Hanbury and Marshall's Flora of Kent, published in 1899, and covers Districts 1 and 2 of that book.

District 1 extends from the West Kent county border to a line on the East drawn through Erith, Crayford, Bexley, Orpington and Keston. District 2 extends from this line on the west, to a line on the east, drawn through Rochester and Snodland, and bounded on the south by the North Downs; this district includes the sub-maritime area extending from the Isle of Grain to Gravesend.

The attention of those who use this Flora is drawn to the following features :—

(1) The nomenclature followed is that of the British Museum catalogue, 1907, compiled by Dr. A. B. Rendle and Mr. J. Britten, of the Natural History Museum, Kensington, in accordance with the International Rules of Botanical Nomenclature adopted by the Botanical Congress at Vienna in 1905. These rules insist on the adoption of the earliest specific name of a plant, no matter under what genus it was first described. A detailed account of the alterations will be found in the *Journal of Botany* for March, 1907. Generally speaking, the nomenclature does not differ much from that given in the ninth Edition of Babington's *Manual*, published in 1904.

(2) The classification and arrangement of the Natural Orders is that followed by Engler and Prantl in the *Pflanzenfamilien* (1889—1905).

(3) Casuals and aliens have been included, and reference has been made to plants commonly cultivated in parks and gardens.

(4) A few details have been given of the relations between plants and thei insect visitors, and here and there a point of biological or œcological interest has been added.

(5) Some care has been taken to indicate the topography and exact nature of the habitat of the plants recorded, and it is hoped that future contributors will follow, as far as possible, the method of entering records suggested below.

(6) In the records, most of which have been dated, those which are old or doubtful, or of historical interest only, have been separated from those of more recent date, and indicated by letters instead of numbers.

(7) The Vascular Cryptogams are based upon papers published from time to time in the *Journal of Botany*, chiefly by Mr. E. M. Holmes, F.L.S., whose help and kindly interest in our work we gratefully acknowledge.

(8) More than half the entries appear here for the first time; several new county records have been established.

(9) An index to the Flowering Plants will be found at the end of the Flora.

In two or three years' time, if there is any demand for it, it is hoped that a second edition of this Flora will be issued. All our local botanists are invited to help in the correction of errors, and in securing a fuller and clearer survey for future editions.

The following method of entering records is suggested :—

1. Name of plant.
2. Date.
3. Where found.
4. Habitat.
    (a) Whether hedge, meadow, wood, etc.
    (b) Soil (and, if possible, the geological formation).
    (c) Whether the station is dry or moist, shady or sunny.
5. Insect visitors, if any (*i.e.*, method of pollination).
6. Plants growing in association with it.
7. Other points of interest, if any.

Recording note books should be ruled in accordance with this scheme, and the details gradually filled in as observed. The field is vast and the workers are few, but it is hoped that the publication of the present lists will stimulate and help students and lovers of nature, and be of service to the botanist.

CLASSIFICATION OF PLANTS.

(Based upon Dr. Rudolf Engler's "Syllabus der Pflanzenfamilien," 1904.)

I. **SPERMAPHYTA** (Seed-bearing Plants) or **PHANEROGAMS** (Flowering Plants).

A. ANGIOSPERMS (seeds enclosed in carpels).

1. DICOTYLEDONS.

a) Archichlamydeae (with primitive envelopes), including the Choripetalae (Polypetalae) and Apetalae (Incompletae).

b) Sympetalae (Gamopetalae).

2. MONOCOTYLEDONS.

B. GYMNOSPERMS (seeds not enclosed in carpels).

1. CONIFERAE.

II. **ARCHEGONIATA** (Cryptogams).

A. PTERIDOPHYTA, or Vascular Cryptogams.

1. FILICALES (Ferns).
2. EQUISETALES (Horsetails).
3. LYCOPODIALES (Lycopodium, Selaginella, Isoetes).

B. BRYOPHYTA, or Non-vascular Cryptogams.

1. MUSCI (Mosses).
2. HEPATICÆ (Liverworts).

III. **THALLOPHYTA.**

A. FUNGI.
B. LICHENS.
C. ALGAE.

ABBREVIATIONS AND CONTRIBUTORS.

1. The **number** preceding each plant is the number attached to the plant in the *London Catalogue*, edition 9, 1895.

In the nomenclature,

B = Bentham's *Handbook*, edition 6, 1892.
H = Hooker's *Student's Flora*, edition 3, 1884.
Bab. = Babington's *Manual*, edition 9, 1904.
comb. nov. = *combinatio nova*, British Museum Catalogue (Brit. Mus. Cat.), 1907.

2. The **abbreviations** are, generally speaking, obvious; the more important are :—

A. = annual.	fl. = flower.	r. = rare.
B. = biennial.	c. = circiter (about).	v. = very.
P. = perennial.	ab. = abundant.	est. = established.
D. = deciduous.	pl. = 1. plant.	ch. = chiefly.
sp. = species.	2. plentiful.	**X** = a cross or hybrid.

3. The chief published **sources** are :—

Hanbury and Marshall's *Flora of Kent*, 1899.
Flowering Plants of the Bromley District, edited by the Rev. J. J. Scargill, B.A., 1898.
The First Report of the Botanical Committee of the Greenwich Natural History Club, 1858. (Gr. N.H.C.)
Flora Metropolitana, by Daniel Cooper, A.L.S., 1837.

Most of the older records are taken from Hanbury and Marshall's *Flora*, but old records are only included when they are of some historical interest, and these are indicated by letters instead of numbers.

In the **records,**

H. = F. J. Hanbury, F.L.S.
M. = E. V. Marshall, M.A., F.L.S.
Dod. = Captain Wolley-Dod, R.A.
De Cr. = Dr. Eyre Champion de Crespigny.
Sc. = The Rev. J. J. Scargill, B.A., Bromley.
Sp. = G. Spooner, Bromley Naturalists' Society.

4. Our chief contributors are indicated by initials :—

W.H.G. = W. H. Griffin, Hon. Sec. Catford Natural History Society.
F.M.R. = F. M. Roberts, Gipsy Hill.

A.D.W. = A. D. Webster, Regent's Park (*Flora of Kent*, 1893; *History of Greenwich Park*, 1902).
J.D.R. = J. D. Robertson, Hammersmith Cemetery.
R.H.C. = R. H. Chandler, Belvedere.

C.H.G. = C. H. Grinling, Woolwich.
J.F.B. = J. F. Bevis, B.A., B.Sc., Eltham.
L.C.C. = L.C.C. Botany Department, Avery Hill, Eltham.
Poly B.C. = Woolwich Polytechnic Botany Class.
The names of other contributors are given in full.

5. For the **lower plants,** authorities, sources, and abbreviations are given in the preface to each group.

PART I.

SPERMAPHYTA (Seed Plants) or PHANEROGAMS (Flowering Plants).

DIVISION A.—ANGIOSPERMS. Section I. DICOTYLEDONS.

Class I.—ARCHICHLAMYDEÆ (with primitive envelopes). (Including Incompletæ, B. & H.)

ALLIANCE OR COHORT I. SALICALES.

N.O. 1. *SALICACEÆ. D. Trees and Shrubs ; diœcious.*

(382) **SALIX,** L. (WILLOW)—Insect-pollinated catkins containing abundant honey.

1396. **S. pentandra,** L. 5–6. Alien.
a. Lane between Chislehurst and Eltham (with double catkins). Reeves.

1397. **S. fragilis,** L. (CRACK WILLOW) 4–5. Streams and wet copses ; generally planted.
1. Bank of Ravensbourne, nr. Southend, '02. W.H.G.
2. Avery Hill, Eltham, '07. L.C.C.
a. Beyond the " Porcupine Inn," Mottingham (with branched catkins), '57. Gr.N.H.C.

S. fragilis x alba (VIRIDIS, Fries.).
1. Between Mottingham and Burnt Ash. Dod fide Linton.

1398. **S. alba,** L. 5. Denizen or alien, but usually planted, and often pollarded.
1. Greenwich Park, '01. A.D.W.

1399. **S. cinerea,** L. 3—4. Moist woods and hedges ; common.

1400. **S. aurita,** L. 4—5. Damp thickets and heaths ; rather local.
1. Eltham Common ; Shooter's Hill ; Wood nr. Northumberland Heath. Dod.
2. Joyden's Wood. Jackson.
a. Chislehurst (1690) ; Keston (1877).

S. aurita x capræa. 1. Hedge nr. Darenth. Dod.

1401. **S. capræa,** L. 4—5. "Palm." Woods and hedges ; common

S. capræa x viminalis, 4—5. Damp meadows and river banks ; usually planted.

S. cinerea x viminalis. Damp copses and osier beds.
1. Wood nr. Northumberland Heath. Dod.

1402. **S. repens,** L. 4—5. A very low shrub ; sandy heaths.
1. Abundant in certain of the damp parts of Keston Common. W.H.G.
2. Chislehurst Common. Dod.
a. W. Wickham (1813), Hayes (1877), St. Mary Cray ('77).

1405. **S. viminalis,** L. (Osier), 4—5. Wet places, but nearly always planted.
1. Banks of Ravensbourne, nr. Southend, '05. W.H.G.
2. Ditchside, Farnborough, '02. A.D.W.
3. Bickley, Beckenham ; Sundridge Avenue (planted). Sc.

1411. **S. purpurea,** L. 3—4.
1. Wet meadows, Northfleet ; by the river above Darenth. Dod.
a. Catford Bridge, '77.

S. babylonica is the Weeping Willow from the Levant.

(383) **POPULUS,** L. (Poplar). Wind-pollinated catkins ; no honey, but sometimes visited by insects for pollen.

1412. **P. alba,** L. (White Poplar), 3—4. In moist places, generally planted.
1. Roadside, Blendon Park. Dod.
2. Shortlands, Cole. Joyden's Wood, Jackson.
3. Avery Hill (*f.*), Greenwich Park.

1413. **P. canescens,** Sm. 3—4. Native or denizen, but generally planted.
1. Bexley. Holmes.
a. Ash Lane nr. Lee (John Stuart Mill) ; Catford Bridge (*m.*), '77.

1414. **P. tremula,** L. (Aspen), 3—4. Native ; woods, copses, borders of heaths ; not common in the district.
1. (*m.*) Keston Common, '03. W.H.G.
2. (*f*) Hedge close to stile by footpath from the Scrubs, Bromley Common, to Crofton, '05. W.H.G.

1415. **P. nigra,** L. (Black Poplar), 3—4. Alien, alw. planted ; v. com. Var. **pyramidalis,** Spach, (fastigiata, Desf.) is the Lombardy Poplar.

P. balsamifera, L. from N.Am. is the Balsam or Tacamahac Poplar, with long catkins, sometimes planted.

Note.—The Walnut (Juglans regia) from the Medit. is often planted (Juglandaceæ).

ALLIANCE II. FAGALES.

N.O. 1. *BETULACEÆ* (*Cupuliferæ, B. & H.*). *All monœcious wind-pollinated flowers.*

1390. **CARPINUS betulus,** L. (HORNBEAM), 5.Woods, copses, hedges ; somewhat rare in the district, and where found prob. alw. planted. Very common in Epping Forest.
1. Well-grown tree on footpath of Houston Road, Perry Hill, Catford. W.H.G.
2. Avery Hill, '07. J.F.B.
3. Hirst Woods, Bexley, '06. Miss Pearce.
4. Sundridge Avenue (fine trees). Sc.
5. Nr. Fanny-on-the-Hill, E. Wickham (enclosed), '07. J.F.B. and W.H.G.

1391. **CORYLUS avellana,** L. (HAZEL), 2—3. Ab. in woods, hedges and thickets, but nuts are not formed in the neighbourhood of populated, and therefore smoky, districts.

(375) **BETULA,** L. (BIRCH).

1385. **B. verrucosa,** Ehrh. (ALBA, Koch), 4—5. Woods, commons ; freq. Fls. protogynous. The most beautiful specimens in the dist. are prob. those on Pauls Cray Common.

1386. **B. pubescens,** Ehrh. 4—5. Moors, heaths and damp copses.
1. Chislehurst Common. M.
a. Nr. Woolwich (old record).

1389. **ALNUS glutinosa,** Medic. (ALDER), 3—4. Wet places ; very common on the banks of streams.

N.O. 2. *FAGACEÆ* (*Cupuliferæ, B. & H.*).

1394. **FAGUS sylvatica,** L. (BEECH), 4—5. Native, but freq. planted; ab. on the chalk. Monœcious, protogynous wind flowers.

1393. **CASTANEA vulgaris,** Lam. (SATIVA, Miller). The SWEET or SPANISH CHESTNUT. An alien and calcifuge from the Medit. region, freq. planted. It is said not to reproduce itself from seed in this country, but young seedlings, presumably self-grown, are freq. found in woods. V. common in the district ; a fine avenue in Greenwich Park.
a. Fossil fragments of wood in brick-earth pit between Erith and Crayford, together with palæolithic flakes ; therefore prob. a native in Pleistocene times. If so, the climate was warmer then than it is now. (Ridley, *J. of Bot.*, '85.) But a fragment of wood of Castanea is hardly to be distinguished from that of Quercus sessiliflora.

(379) **QUERCUS,** L. (OAK).

1392. **Q. robur,** L. (The British Oak), 4—5. Protogynous wind fls (Kerner) ; v. com. exc. on the chalk. The prevailing form is var. pedunculata, but var. sessiliflora is not uncommon.

Q. cerris, L. (The Turkey Oak, Medit.). An alien with spiny cupules.

1. Plentiful in coppices in Whitefoot Lane, Southend, and about Beckenham. W.H.G.
2. Avery Hill, '07. L.C.C.

Q. ilex, L. (The Evergreen Oak, Medit.). An alien.

1. Several old trees in Holwood Park, prob. introd. by William Pitt, and some fine trees by roadside at Park Gate, Chelsfield, nr. the upper entrance to Lullingstone Park. W.H.G.
2. At back of Grace's Farm, Eltham, and at Avery Hill, '07. L.C.C.
3. Well-grown trees in cemetery of Old Bexley Church, '06. G. N. Melland.
4. Greenwich Park, some fine trees.
5. R. A. Observatory, Woolwich, '07. C.H.G.

ALLIANCE III. URTICALES.

N.O. 1. *ULMACEÆ (B. & H. unite the Ulmaceæ and Moraceæ with the Urticaceæ).*

(390) **ULMUS,** L. Protogynous wind flowers.

1377. **U. montana,** With. (Wych Elm), 3—4. Where found, prob. alw. planted, but it may be propagated by seed ; freq. in many parts of the district.

a. In great abundance in the hedges betw. E. Wickham and Plumstead ; in a lane betw. Woolwich and the Com. beyond the Warren ; a few trees in the hedges betw. Greenwich and Woolwich (1793).

1378. **U. campestris,** L. (surculosa, Stokes), the Common Elm, 1—5. Very commonly planted in hedges, woods, etc. Not self-propagated by seed in this country, and " only rarely anywhere." (Boulger : *Familiar Trees.*)

N.O. 2. *MORACEÆ.*

1379. **HUMULUS lupulus,** L. 7—8, P. Native, but in Kent a com. escape. Pl. diœcious, fls protogynous and wind-pollinated.

N.O. 3. *URTICACEÆ. Essentially wind-pollinated fls. producing vast quantities of dry pollen.*

(372) **URTICA,** L. (The Stinging Nettle).

1380. **U. dioica,** L. 6—8. *m.* and *f.* fls. on diff. pls. Common everywhere.

1382. **U. urens,** L. 6—9, A. *m.* and *f.* fls. in the same panicle ; com. everywhere, especially in cultivated fields and gardens.

(373) **PARIETARIA,** L.

1383. **P. ramiflora,** Moench. (OFFICINALIS, L.) PELLITORY ON THE WALL), 6—9, E.P. Old walls, chalk cliffs, rubbish heaps ; common.

1. Nr. St. John's Palace, Eltham, on wall, '06. J.F.B.
2. Wall of Old Bexley Churchyard, '05. W.H.G.

var. b). **Fallax,** Gren. and Godr. On footpath under low wall near Farningham village, where Galium anglicum also occurs, '04. W.H.G.

ALLIANCE III. SANTALALES.

N.O. 1. *LORANTHACEÆ.*

1356. **VISCUM album,** L. (MISTLETOE), 3—4. E. parasite on trees, esp. Limes, Apple and Pear Trees, and Hawthorn. Fls. fly-pollinated and fruit bird-sown.

1. On lime tree in Avenue of the Hortic. Coll. Swanley, '00. G.N.Melland.

ALLIANCE IV. POLYGONALES.

N.O. 1. *POLYGONACEÆ. Small honey fls. with tendency to self or wind-pollination.*

(358) **POLYGONUM,** L. Cleistogamic fls. under ochrea in some sp. (aviculare).

1321. **P. convolvulus,** L. (KNOTWEED), 7—9, A. Everywhere, esp. on light soils.

var. b). **subalatum,** V. Hall.

1. Strawberry field, nr. Chislehurst, '02. W.H.G.

1322. **P. dumetorum,** L. 7—9, A ; rare.

1. In two or three spots behind Woolwich Cemetery. '94. Dod.

1323. **P. aviculare,** L. (KNOTGRASS), 5—9, A. Com. everywhere.

var. a). **agrestinum,** Jordan.

1. V. com. about Eltham, Erith, Bexley, etc. Dod.
2. Gravel Pit, Ravensbourne, '03. W.H.G.

var. b). **vulgatum,** Syme.

1. Charlton Calk Lit. Dod.
2. Roadside bank, Bromley Hill, '03. W.H.G.

var. c). **arenastrum,** Boreau.
1. Freq. on light sandy soils in the locality. Dod.

var. d). **microspermum,** Jordan.
1. Hayes Common, '98. A. O. Hume.

var. e). **rurivagum,** Jordan.
1. Eltham and Bromley. Jackson.
a. Deptford (c. 1800).

var. g). **polycnemiforme,** Lecoq and Lamotte.
1. Nr. Bedon Well. Dod fide A. R. Bennett.

1324. **P. Raii,** Bab, 7—9, A. Sandy seashores ; very rare.
1. Grain Spit. M. and Dod.

1326. **P. hydropiper,** L. (WATERPEPPER), 8—9, A. Ditches ; v. com.

1327. **P. minus,** Huds. 8—9, A. Wet gravelly places ; v. rare.
a. Side of Kent road, Blackheath, 1802.

1328. **P. mite,** Schrank, 7—9. Wet places ; rare.
1. Chislehurst Common. H.

1329. **P. persicaria,** L. 7—10, A. Ditches, wet fields, roadsides ; com.

1330. **P. lapathifolium,** L. 7—9, A. Cultivated ground, dunghills, etc. ; common.
1. Goods siding, Lower Sydenham, '05. W.H.G.
a. First Record 1777. "Blackheath."

1331. **P. [maculatum,** Bab. 7—9, A. Same as 1330, and probably as common.
1. Ab. in Woolwich, largely replacing P. persicaria. Dod.
2. Fields nr. Swanley Junction. M.

1332. **P. amphibium,** L. 7—9, P. Aquatic or terrestrial.
1. Aquatic form, Ravensbourne stream, nr. Southend, '02. W.H.G.
2. Terrestrial form (var. TERRESTRE). Drybank opp. Bellingham Railway Station, '02. W.H.G.

1333. **P. bistorta,** L. 6—9, P. Fls. containing honey ; insect or self-pollinated. A beautiful fl. rare in the district, growing in moist places.
1. Meadow close to road nr. bridge over the Darenth at S. Darenth, '03. W.H.G.
2. Greenwich Park by pond, '01. A.D.W.
a. Abundant in meadow adjoining lane from Bromley to Hayes (c. 1856).

1335 **FAGOPYRUM esculentum,** Moench. (BUCKWHEAT), 7—8, A. Alien from Asia, cultivated on the Continent and in North America for its farinaceous seeds ; in England ploughed in green for manure or grown for pheasants.

1. Occasionally occurs nr. farm buildings from seeds thrown down for fowls : Farm Lane to W. of Chislehurst Com. (with Cuscuta epithymum upon it), '99. W.H.G.

(360) **RUMEX,** L. (Dock). Fls. us. wind-pollinated, with large stigmas ; perennial tap roots, except the sorrels.

1337. **R. conglomeratus,** Murr. 6—8, P. Damp places ; frequent.

1339. **R. sanguineus,** L. 6—8, P. The type with red-veined leaves is rare in the dist., the v. with green veins quite com.
1. Type : Ravensbourne, '98. A. O. Hume.
var. b). **viridis** (Sibth) : Stone Marshes, '03. W.H.G.

1340. **R. maritimus,** L. 7—9, B. or P. Marshy places near the sea ; rare.
1. Plumstead Marshes. Dod.
a. Greenwich flats, Erith Marshes ('77).

1341. **R. limosus,** Thuill. 7—9. P. Very rare.
1. Plumstead Marshes ; nr. Practice Butts. Dod.
a. Erith (1629) ; Charlton, riverside (c. 1844).

1342. **R. pulcher,** L. 6—9, B. or P. Dry waste places ; frequent.

1343. **R. obtusifolius,** L. 7—9, P. A troublesome weed in fields and waste places.
1. Ravensbourne, '68. A. O. Hume.
2. Very abundant in neglected orchard, Eltham, '07. J.F.B.

var. **sylvestris,** Wallr. On Kentish side of river at Greenwich. (Warren : *J. of Bot.* '66).

R. obtusifolius x pulcher.
1. Lane End, Darenth. Dod fide Townsend.

1344. **R. crispus,** L. 6—9, P. In waste places ; very common. Fls. bisex. *m.* and *f.*

R. crispus x obtusifolius. A frequent hybrid.

1346. **R. hydrolapathum,** Huds. 7—8, P. Marsh or mud ; common. Said to produce aerating roots like mangroves. Fine pls. on Stone Marshes, '03. W.H.G.

1348. **R. acetosa,** L. (Sorrel), 5—6, P. Woods and damp places ; common.

1350. **R. acetosella,** L. (Sheep's Sorrel), 5—7, P. Abundant everywhere in dry sandy places.

Note.—To this order belongs the Rhubarb (Rheum).

ALLIANCE V. CENTROSPERMÆ.

N.O. 1 *CHENOPODIACEÆ. Nearly all halophytes with fleshy or mealy leaves; most self-pollinated, some wind. The Chenopods are apetalous allies of the Caryophyllaceæ.*

(352) **CHENOPODIUM,** L. (GOOSEFOOT). Generally protogynous wind fls.

1294. **C. polyspermum,** L. 7—9, A. Ab. in cultiv. and waste places.
1. Strawberry fields, Crofton, '03. W.H.G.
2. Bromley, Hayes, Beckenham, '97. Sc.

var. b). **cymosum,** Moq.
1. Same fields as above. W.H.G.
2. New roads at foot of Bromley Hill, '04. W.H.G.
3. In most districts within 5 miles of Woolwich. Dod.

1295. **C. vulvaria,** L. (STINKING GOOSEFOOT), 7—10, A. Waste ground, chiefly near the sea; local.
1. Several places about Woolwich Arsenal. Dod.
a. Under Greenwich Park wall. Reeves.
b. Brockley, Deptford, Woolwich Warren (1793).

1296. **C. album,** L. 7—9, A. The commonest of our Goosefoots. The type **candidans,** Lam. seems to be less ab. than the vars.

b). **viride,** Syme. Arable field, Whitefoot Lane, Southend, '04. W.H.G.

c). **viridescens,** St. Am. (PAGANUM, Reich.), which, according to Dod, is by far the commonest form about Woolwich, and the Thames Marshes, more freq. shading off into the type than into viride.

1297. **C. opulifolium,** Schrad. A casual.
1. Plumstead, Crossness, Tripcock Ness, E. Greenwich Marshes, '93–'94. Dod.

1298. **C. serotinum,** L. (FICIFOLIUM, Sm.), 8—9, A. Loc. abt. London and Yarmouth.
1. Crossness, Eltham, Woolwich, and W'ch. Ars. Dod.
2. Roadside between Bromley Common and Bickley, '03. W.H.G.
a. Lee; between Charlton and Woolwich (old records).

1299. **C. murale,** L. 7—9, A. Rare and local.
1. Field east of Plumstead; lane nr. Eltham Court; Lessness Heath. Dod.
a. Deptford and Greenwich (1793).

1300. **C. hybridum,** L. 8—9, A. Rare and only as a weed of cultiv.
1. Crossness; Brookhill Road, Woolwich (?). Dod.
a. Deptford, Brockley, Sydenham (1793); Charlton (Syme).

1301. **C. urbicum,** L. 8—9, A. Rare.
a. Greenwich flats, '77.

1302. **C. rubrum,** L. 8—9, A. Dunghills and waste places ; freq. except on the chalk.

var. b.). **pseudobotryoides,** H. C. Wats.
1. Crossness. Dod.

1304. **C. glaucum,** L. 8—9, A. V. rare, doubtfully native ; only near London.
a. Charlton. F. A. Hanbury.
b. Deptford, New Cross, Lee and Bromley (old records only).

1305. **C. Bonus-Henricus,** L. (Good King Henry), 5—8, E.P. Waste ground, roadsides ; freq. ; doubtfully native, once having been cultiv. as a pot-herb.
1. Roadside betw. Farnborough and Down, nr. an old farmhouse, '04. W.H.G.
2. Approach to Lullingstone Castle from Eynesford, '05. W.H.G.
3. Nr. Natt's Farm, Maplescombe Valley, on N. Downs above Eynesford, '05. W.H.G.
4. Roadside beyond Mottingham, '06. L.C.C.

1306. **BETA maritima,** L. (vulgaris, L.), 5—9, B. or P. Beet. Sea coasts ; but when cultiv. and allowed to run to seed, the latter sometimes escape and produce quasi-wild pls. not distinguishable from the seashore plant.
1. Border of arable field, Chelsfield, '04. W.H.G.
The Garden and Sugar Beets, as well as the Mangold-wurzel, have been derived from B. maritima.

(354) **ATRIPLEX,** L. (Orache).

1307. **A. littoralis,** L. 7—9, A. Seashore and banks of tidal rivers.
1. Shore of Thames, Greenhithe, '02. W.H.G.

var. b.). **serrata.** Ditto.

1308. **A. patula,** L. 6—10, A. As 1307, but also on waste and cultiv. ground inland.

var. c.). **angustifolia,** Sm. Same locality as 1307, but below high-water mark. W.H.G.

1310. **A. deltoidea,** Bab. 7—10, A. Waste ground ; common.
1. Waste ground about Shortlands, '94. Dr. Playfair.

var. b.). **prostrata,** Bab. Crossness. Dod.

1311. **A. Babingtonii,** Woods, 7—10, A. A maritime pl. ascending the estuary of the Thames as far as Plumstead.

1314. **OBIONE pedunculata,** Moq. (ATRIPLEX, L.), 8—10, A. Muddy salt marshes ; rare.
1. This maritime sp. is occasionally found in inland places, e.g. in a wheaten stubble field nr. Orpington, '99. W.H.G.

1319. **SUAEDA maritima,** Dum. (SEA-BLITE), 7—9, A. Salt marsh and mud plant, ascending the Thames as far as Plumstead.

NOTE.—To this order belongs the garden vegetable, spinach (spinacea oleracea). The Mesembryanthemums, curious S. African desert succulents belong to an allied order, the Aizoaceæ, and the beautiful woody climber Bougainvillea to the Nyctaginaceœ. The latter is found in the Winter Gardens, Avery Hill, and different sp. of the former in the grounds.

N.O. 2. *AMARANTACEÆ.*

(351) AMARANTHUS, L.

1292. **A. retroflexus,** L. Casual. 1. Tripcock Ness, '94. Dod.
A. blitum, L. Casual. 1. Bromley. Cole.
A. albus, L. Casual (N. Am.) 1. Tripcock Ness, '94. Dod.

N.O. 3. *PORTULACACEÆ.*

266. **CLAYTONIA perfoliata,** Donn. A N.Am. alien, naturalised in this country in wet sandy places.
1. Greenwich Park, '01. A.D.W.
2. Avery Hill, '06. L.C.C.
3. Roadside bank nr. Hayes Railway Stn., '04. W.H.G.
4. Hayes Common in a dry ditch, '04. W.H.G.

267. **MONTIA fontana,** L. (4—8), A. Wet sandy places.
1. Dartford Heath. Reeves.
2. Hayes Common, '05. F.M.R.
a. Old records from Blackheath, Charlton, Chislehurst (1793, a 1st record), and Keston Common ('36).

N.O. 4. *CARYOPHYLLACEÆ.*

SUB-ORDER I.—**SILENOIDEÆ.** Fls. of a higher type, the gamosepalous calyx forming a tube which renders the honey accessible only to long-tongued insects (moths, butterflies, humble bees).

(60) DIANTHUS, L. (PINK).

193. **D. armeria,** L. (Deptford Pink), 7—8, A. Native, on dry sunny banks ; local, but decreasing ; butterfly fls. (see art. by Mr. James Britten in *J. of Bot.*, 1892). Records chiefly of historical interest.
   1. Nr. Northfleet, betw. Lane End and Green Street Green. Dod.
   a. Deptford (1633) ; Plumstead ; Charlton Wood (1762).
   b. Eltham, Bromley, Chislehurst ('35–'37) ; St. Mary Cray (c. '55) ; nr. Farningham ('42).
   c. Paul's Cray Common, St. Mary Cray Stn., '75. Dr. Playfair.

194. **D. deltoides,** L. 6—9, P. V. rare ; dry sunny pastures and gravelly banks ; honey accessible only to Lepidoptera.
   1. Cobham. Ridley.
   a. First record, 1597 : Deptford.

(61) **SAPONARIA,** L. (Soapwort).

199. **S. vaccaria,** L. 7—8, A. A continental cornweed, established on ruins, etc.
   1. Gravelly railway bank nr. W. Wickham Station, '01. A. Verrall teste W.H.G.
   2. Woolwich Ars. ; Wrottesley Road, Plumstead. Dod.
   3. Charlton Pit, '03, Poly B.C. '07, J.F.B. and W.H.G.

200. **S. officinalis,** L. (Soapwort). Denizen : hedges, banks, borders of woods ; local. Fls. sweet-smelling at night, pollinated by Lepidoptera, especially hawkmoths.
   1. Banks of S.E. & C. Railway between New Cross and St. John's, '01. P. Cochrane.
   a. Abundant in hedge forming the S. boundary of grounds of Morden College, '57. Gr.N.H.C.

(62) **SILENE,** L. (Catchfly) ; chiefly Lepidoptera fls.

201. **S. latifolia,** *Comb. nov.* (Cucubalus, Wib.), Bladder Campion, 6—8, P. Common, esp. on the chalk. Fls. bi- or uni-sexual or both ; pollinated by butterflies and humble bees.

   var. **oleracea,** Boreau, with v. narrow leaves, reported by Dod from ashpits in Woolwich Arsenal ; and

   var. **angustifolia,** Tenore, from Charlton Chalk-pit.

202. **S. maritima,** With. (Sea Campion), 6—8, P. Seashore pl.
   1. On some river gravel in Woolwich Arsenal. Dod.

203. **S. armeria,** L. 7—9, A. An alien ; v. rare.
   1. Established in the enclosure of Observatory Hill, Greenwich Park, '01. A.D.W
   a. Nr. Dartford. Reeves.

205. **S. anglica,** L. 6—10, A. ; col. or casual ; gravelly fields ; rare.
a. Old records only : Blackheath (1838), Bromley (1857)

210. **S. italica,** Pers. 6—7, P. A casual found occasionally in the chalk districts of Kent. The only recent record is :
a. Roadside betw. Dartford and Lane End, '88. Dod.

211. **S. noctiflora,** L. 7—10, A. Colonial or casual ; fields and waste ground, esp. in the chalk dists.; rare ; nocturnal moth fl.
1. Plum Lane Brickfield, Plumstead—one plant, '92. Dod.
2. Roadside, Bostall Heath ; E. of Darenth Wood. Dod.
a. One pl. Orpington, '94. Spooner.

(64) **LYCHNIS,** L. Bee and Lepidoptera fls. ; anthers often filled with Smut (USTILAGO) instead of pollen.

213. **L. alba,** Miller (VESPERTINA, Sibth.), WHITE CAMPION, 6—9, B. or P. Fields, roadsides, hedges ; v. com. There are 3 forms of the fl., bi-sexual, *m.* and *f.* ; fl. opens at 6 p.m. and closes at 9 a.m. (Lubbock), but in dull or damp weather it is open all day ; pollinated by night-moths. The pink-flowered form noted at Keston by W.H.G. in '03.

214. **L. dioica,** L. (DIURNA, Sibth.), ROSE CAMPION, 5—7, P. Damp hedge-bottoms and copses ; occasionally with white fls. Bee fl. opening by day and closing at night. It has a shorter tube than L. vespertina.
1. It is curious that this species is not met with in the chalky dists. of W. Wickham, Keston, and Cudham, whereas on similar soil in adjoining localities on the Surrey side of the county border (Chelsham, Tatsfield) it is v. freq. '07. W.H.G.

215. **L. flos-cuculi,** L. (RAGGED ROBIN), 5—7, P. Moist Meadows, hedges, etc. ; common.

218. **L. githago,** Scop. (AGROSTEMMA GITHAGO, L.), CORN COCKLE, 6—8, A. Colonist. A handsome cornfield weed, straying into fields and waste ground. Not uncommon, but always scattered and uncertain in its appearance. Pollinated by butterflies and moths.

L. fulgens, Fisch, 6—7, P. A garden escape in gravel-pit, Hayes, '06. W.H.G.

L. coronaria, Desr. A garden escape, foot of Coney Hill, W. Wickham, '02. W.H.G.

NOTE.—To this order belong the garden pls., Aubretia and Matthiola (Stock) and the curious Asiatic desert plant, Anastatica hierochuntica, Rose of Jericho (the plant often sold as such is only a Selaginella).

SUB-ORDER II.—**ALSINOIDEÆ.** Fls. of a lower order, wide open, polysepalous, honey accessible to short-tongued insects (small bees, flies).

220. **MOENCHIA erecta,** Gaert. (CERASTIUM QUATERNELLUM, Fenzl.) 5—6, A. Dry stations ; local.

1. Hayes Com. and Holwood Park, '03. W.H.G. '98. Sc.
2. Paul's Cray Common. H.
3. Dartford Heath, Reeves.

a. Blackheath (c. 1673), Chislehurst Common (1838).

(66) **CERASTIUM,** L. White fls. with half-concealed honey.

221. **C. tetrandrum.** Curt. 5—6, A. Dry places nr. the sea ; very rare inland.

1. Between Port Victoria and Grain. M.

a. Noted in Blackheath in 1836, but not seen since.

223. **C. semidecandrum,** L. 3—5, A. In dry open places, loc. abt.

1. Woolwich and Chislehurst Commons ; Lane End ; W. side Darenth Wood ; Northfleet. Dod.
2. Common near Bromley Hill, esp. in the new roads, '03. W.H.G.
3. Cobham, Farningham, Keston, Hayes.
4. Bostall Heath, '04. R.H.C.

a. Blackheath and Greenwich Park (1787).

224. **C. viscosum,** L. (GLOMERATUM, Thuill.), 4—8, A. Banks, roadsides ; very common indeed.

var. b.) **apetalum,** Dum.

1. One pl. Hayes Common. Britton.
2. Lane End, Darenth. Dod.

225. **C. vulgatum,** L. (TRIVIALE, Link), 4—9, P. Fields, meadows, banks, waste places ; extremely common

NOTE.—C. viscosum, vulgatum, semi-decandrum and tetrandrum, are all regarded by B. & H. as varieties of C. vulgatum (mouse-ear chick-weed), a protean sp. sometimes divided into as many as 20–30 sp.

228. **C. arvense,** L. 4—8, P. Fields, banks, especially on the chalk ; local.

1. Cutting, E. of Northfleet. Dod.

a. Dartford, 1680, 1st record ; chalky banks nr. Sutton, '77.

230. **MYOSOTON aquaticum,** Mœnch, (STELLARIA AQUATICA, Scop. MALACHIUM AQUATICUM, Fries), 7—8, P. In wet places ; not common.
1. Plentiful by Darenth Church. Dod.
2. Bank of Ravensbourne, Southend, Catford, '06. W.H.G.
3. Bank of Darenth, Shoreham, '01. W.H.G.
a. Cator Estate, Beckenham, '97. Sc.
b. Old records from Deptford, Lewisham and Beckenham.

(67) **STELLARIA,** L. (STITCHWORT) ; petals sometimes absent.

232. **S. media,** Villars, (CHICKWEED), A. Abt. everywhere ; fls. all the year round, but during the winter the fls. are often cleistogamic and self-fertilised.

var. b.) **Boræana,** Jord. (ALSINE PALLADA, Dum.)
1. Isle of Grain. Jackson.

233. **S. neglecta,** Weihe (UMBROSA, Opiz.; under MEDIA, B. & H.), 4—7, P. Moist shady places ; very rare.
1. Plentful in thicket by Darenth Church. Dod.

234. **S. holostea,** L. (GREATER STITCHWORT), 4—6, P. V. com. in woods, hedges, and roadsides.

236. **S. graminea,** L. (LESSER STITCHWORT), 5—7, P. Com. on heaths and in dry sandy pastures. Fls. bi-sex. but stamens often reduced or absent.

237. **S. uliginosa,** Murr. 5—7, A. Bogs ; common.
1. Keston, Reeves (and still there, '06).
2. Mary Cray Common, '05. R.H.C.

241. **MINUARTIA tenuifolia,** Hiern (ARENARIA, L. M. LEPTOPHYLLA, Groves), 6—7, A. Dry sandy or chalky ground ; r.
a. Near Hayes. Cole.
b. First record, c. 1680 ; near Dartford.

(68) **ARENARIA,** L. (SANDWORTS).

242. **A. trinervia,** L. 5—7, A. Shady hedgerows and damp places ; common.
a. First record : Charlton Wood, Martyn, 1763.

243. **A. serpyllifolia,** L. 6—8, A. (P. in the Pyrenees). Dry ground, walls ; very common.

var. b.) **glutinosa,** Koch.
1. Grain Spit. M. and Dod.

var. c.) **leptoclados,** Guss. (different sp. Brit. Mus. Cat. and Bab.). Top of Railway bank, Pett's Wood, Paul's Cray Common, '05. W.H.G.

247. **HONKENYA peploides,** Ehrh. (ARENARIA PEPLOIDES, L.) 6—9. A halophyte.
1. Grain Spit. M.
a. Reported by A.D.W. in Greenwich Park, '01.

(69) **SAGINA,** L. (PEARLWORTS). Small herbs gen. with solitary, inconspicuous, sometimes apetalous fls., either self-fertilised or only visited by small insects.

249. **S. maritima,** Don. (under PROCUMBENS, B.; under APETALA, H.), 5—7, A. A seashore plant; rare.
1. Stone marshes, '03. W.H.G.

250. **S. apetala,** Ard. 5—8, A. Walls, paths, dry fields; common.

var. b.) **prostrata,** Bab. In a garden at Woolwich. Dod.

251. **S. ciliata,** Fries. (under PROCUMBENS, B. under APETALA, H.), 5—9, A. Dry sandy ground; local.
1. Chislehurst Com.; Lane End; Dartford; W. side Darenth Wood; wall at Darenth. Dod.
2. Between Port Victoria and Grain. M.
3. Greenwich Park, A.D.W. and Mrs. Luxford (first record '49).

253. **S. procumbens,** L. 5—10, P. Dry sandy and gravelly soils; v. abundant everywhere.

var. b.) **spinosa,** S. Gibs. Ashpits, Woolwich Arsenal (Dod) and Blackheath (Britton).

257. **S. subulata,** Presl. 5—8, P. Dry sandy soil; very rare.
a. Blackheath, Reeves.
b. Reported in district by Gr.N.H. Club, '57.

259. **SPERGULA arvensis,** L. (CORN SPURREY), 6—10, A. Dry arable fields; very common.

var. b.) **sativa,** Boenn (or diff. sp. Brit. Mus. Cat. and Bab.).
1. Arable field, Catford, '00. W.H.G.
2. Fields about Swanley Junction. M.

(71) **ALSINE,** L. (BUDA, Adans.; SPERGULARIA, Presl.; LEPIGONUM, Fries.)

260. **A. rubra,** Crantz (S. RUBRA, Pers.), 6—9, A. Dry sandy places, a not uncommon cornfield weed, freq. on gravelly paths, roadsides, etc.
1. N. of Eltham; Plumstead Com.; Bexley; Bostall Heath; Mottingham; Dartford Heath. Dod.
2. Dartford Heath gravel-pit, '04. R.H.C.
3. Hayes Gravel-pit. F.M.R.

261. **A. marina,** Wahl., 6—9, A. Muddy shores and salt marshes. Var. **neglecta** common; var. **media,** noted by Dod in the Thames Marshes.

(350) **SCLERANTHUS,** L. (N.O. ILLECEBRACEÆ, B. & H.; PARONYCHIACEÆ).

1290. **Scleranthus annuus,** L. (KNAPWELL), 6—8, A. or B. Freq. on heaths, and in dry sandy fields and gravelly roads where the traffic is small.
1. Bellingham R. Stn.,'03; Crofton, Hayes Common and W. Wickham, '04. W.H.G.
2. Bexley. Holmes.
3. Fields S. of Darenth Wood. Dod.

var. b.) **biennis,** Reuter. On heaths.
1. Paul's Cray Common. Dod.
2. Dartford Common and Heath. Dod.

NOTE.—To this order also belong the Pinks and Carnations and Gypsophila.

ALLIANCE VI. RANALES.

N.O. 1. *NYMPHÆACEÆ. All aquatics.*

55. **CASTALIA alba,** Greene (NYMPHÆA ALBA, L. C. SPECIOSA, Sals.), WHITE WATER-LILY, 7—10. No nectaries on petals. An aquatic presumably extinct in the district. The fls. rise above water about midday and expand, closing again and sinking towards evening.
1. Greenwich Park and Avery Hill (introd.).
2. Pretty freq. in private waters: e.g. Bromley Hill and Keston, 3rd pond (introd.). Sc.

53. **NYMPHÆA lutea,** L. (NUPHAR LUTEUM, Sm.), Yellow Water-lily, 6—8. Petals with nectaries.
1. Ponds at Keston Com. (introd.), '05. W.H.G.
2. At Eynesford, H.
3. Avery Hill (introd.), '07. L.C.C.

NOTE.—To this order also belong Nelumbo (the Indian Lotus), Cabomba, and the gigantic Victoria regia from the Amazon.

N.O. 2. *CERATOPHYLLACEÆ. An order of doubtful position; all aquatics.*

(385) **CERATOPHYLLUM,** L. (HORNWORTS). Water-pollinated.

1417. **C. demersum,** L. 6—8. A fairly common aquatic.
1 Eynesford. H.
2. Avery Hill (introd.), '06. L.C.C.

1418. **C. submersum,** L. (under DEMERSUM, B. & H., 6—8).
1. Ditches in Stone Marshes, '01. W.H.G.
a. Formerly reported in the Thames Marshes, but prob. now extinct. Dod.

N.O. 3. *RANUNCULACEÆ.*

1. **CLEMATIS vitalba,** L. (TRAVELLER'S JOY, OLD MAN'S BEARD), 7—8. Woody climber, climbing by means of sensitive petioles. Com. in hedges throughout the district.

7. **THALICTRUM flavum,** L. (MEADOW RUE), 6—8, P. Wet places, rather rare. Fly-pollinated; other sp. of T. (minus) are still more degraded, being wind-pollinated.
1. Nr. Swanley, '06. L.C.C.
2. Meadows round Darenth; wet osier bed nr. Northfleet. Dod.
a. Nr. Viaduct of L.C. & D.R. betw. the Crays and Farningham (c. 1860).
b. a small colony on Cator Estate, Beckenham, '97. Sc.
c. First record, 1629 :—" Between Erith and Gravesend."

9. **ANEMONE nemorosa,** L. (WOOD ANEMONE), 3—5, P Com. in damp shady woods and hedges, often in company with Adoxa, whose leaves resemble it. One of the few pls. able to grow beneath Beeches.

12. **ADONIS annua,** L. (AUTUMNALIS, L.), PHEASANT'S EYE, 5—10, A. A rare colonist, occuring as a weed of cultivation. No honey; the only recorded visitor is the honey bee.
1. Arable field, Swanley, '83. Jas. Groves and H.
2. War Bank, Keston, '92. A. S. Kennard.
3. Abundant in certain arable fields between Ash and Kingsdown, '06. L.C.C.
4. Chelsfield. Spooner.
5. Plentiful on other side of the Darenth, rare on this; '57. Gr.N.H.C.
a. Old records show the pl. once more or less plentiful nr. Dartford, Gravesend, Greenhithe, Northfleet, and Cuxton.

13. **MYOSURUS minimus,** L. (MOUSETAIL), 5—6, A. In arable fields; local and uncertain in its appearance.
1. Shorne; Cuxton. Miss Wickham.
a. Betw. Blackheath and Eltham (Reeves); Kidbrook (Wollaston); Eltham (1673).

(6) **RANUNCULUS,** L.

R. aquatilis, L. 5—8 (WATER BUTTERCUP), P. V. common. Under this name B. & H. include all the pond-weed (Batrachian) forms with submerged dissected leaves, looking upon the so-called sp. described below (14—21) as varieties, more or less constant in character. The submerged leaves in running water are linearly dissected, and in stagnant water they approach the laminate form ; but the floating leaves, if present, are entire. This buttercup, having only recently taken to the water, shows, as conditions vary, more or less terrestrial characters. When above water the fls. are visited by small insects, chiefly flies, when submerged, they are self-fertilised.

14. **R. divaricatus,** Schr. (CIRCINATUS, Sibth), 6—8, P.
    1. Erith. Dod, H. & J. Groves, '00.
    2. Greenhithe. H.
    3. Eynsford M.
    4. Ditches by the railway below Crayford. Dod.

16. **R. pseudo-fluitans,** " Bab.," Hiern. 4—6, P.
    1. By Crayford Mill ; betw. Springhead and Northfleet Station. Dod.
    a. Charlton. Linford.

17. **R. trichophyllus,** Chaix. 4—6, A.
    1. Plumstead Marshes. Dod. '00, H. Groves.
    a. Sidcup. Holmes.

18. **R. Drouetii,** Schultz, 4—6, A.
    1. Plumstead Marshes. Dod and first record (c. 1858).
    2. St. Mary Cray ; betw. Springhead and Northfleet Station. Dod.
    2. Dartford Marshes, '03. W.H.G.
    4. Higham Marshes. H.
    5. Port Victoria. M.

    var. b.) **Godronii,** Gren.
    a. Pond by roadside betw. Woolwich and Eltham. Dod.

19. **R. heterophyllus,** Weber, 5—7, P.
    1. Pond at Eltham ; pond opposite Well Hall, Eltham (?) ; Shorne Warren. Dod.
    2. Southend pond, Catford, '03 ; Lullingstone Park, '04. W.H.G.
    3. Pool outside Ladies' Close Wood, nr. Cliffe. M.

20 **R. peltatus,** Schrank, 5—6, P.
    1. Plumstead Marshes ; Shorne Warren. Dod.

var. c.) **floribundus,** Bab. (distinct sp. Brit. Mus. Cat.).
1. Pond on Chislehurst Common. Dod.
a. Hayes Common, '77.

var. d.) **penicillatus,** Hiern, (distinct sp. Brit. Mus. Cat.).
1. Very abundant in the Darenth. Dod, etc.

21. **R. Baudotii,** Godr. 5—8, A.
1. Erith Marshes, W. of Crossness. Dod.
2. Plumstead Marshes, '94. H. & J. Groves.
3. Northfleet, '82 ; Cliffe Marshes, '00, H. Groves.
4. Higham Marshes. H.
5. Isle of Grain. Jackson.

var. b.) **confusus,** Godr. (distinct sp. Brit. Mus. Cat.). Northfleet Marshes. Reeves

R. Baudotii x Drouetii (?)
1. Ditch, Plumstead Marshes, '77. H. and J. Groves.

24. **R. hederaceus,** L. 5—9. A perennial mud or pond weed, but never with dissected leaves. This elegant little plant grows readily from seed on a moist garden rockery. W.H.G.
1. On mud at top of the lower pond, Keston Com., '06. W.H.G., Reeves.
a. Nr. Charlton. Lister.

var. b.) **omiophyllus,** Ten. Below Queen's Wood, Welling. Dod. (a doubtful variety.)

25. **R. sceleratus,** L. 6—10, A. or B. Mud, shallow ponds, locally distributed ; fly-pollinated.
1. Southend, Catford, '03 ; ponds in meadow E. side of Bromley Hill, '06. W.H.G.
2. Pond, Grace's Farm, Eltham, '06. L.C.C.
3. Ditch, Plumstead Marshes, '04. R.H.C.

27. **R. flammula,** L. 6—10, P. Ditches and boggy places ; com. except on chalk.
1. Keston Com., '05 ; meadows off Bromley Road, '06. W.H.G.
2. Eltham Com. ; St. Paul's Cray, '01 ; Shooter's Hill, '02. C.H.G.
3. Ditches nr. Eltham, '06 L.C.C.

30. **R. lingua,** L. 6—10, P. A very local pond weed ; fly-pollinated.
a. Old records only, no recent ones.

31. **R. auricomus,** L. (Goldilocks), 4—5, P. In shady places on the chalk and lower Tertiaries ; not uncommon.
1. Bromley Hill, Catford, '03 ; Holwood Park, under Beech trees, '06. W.H.G.

32. **R. acris,** L. (MEADOW BUTTERCUP), 5—7, P. V. abundant in damp pastures, grassy roadsides, etc.

33. **R. repens,** L. (CREEPING BUTTERCUP), 5—10, P. With acris the commonest of our Buttercups, growing in all places, waste and cultivated.

var. **flore-pleno** (double-flowered variety). V. rare ; arable field Crofton, '02. W.H.G.

34. **R. bulbosus,** L. 4—6 ; tuberous rooted P. ; in open grassy (not too damp) and waste places v. abundant ; partridges v. fond of the young " bulbs."

35. **R. sardous,** Crantz, (HIRSUTUS, Curt.), 5—10, A. Damp meadows and cornfields, esp. nr. the sea ; local.

1. Woolwich Arsenal. Dod.
2. Downs and meadows about Snodland. H. and M.
3. Also at Kidbrook (Jackson), Higham, Cliffe, Cuxton, etc. (H.)

36. **R. parviflorus,** L. 5—7, A. Fields, dry banks ; rare.

1. Chislehurst Com., '06. L.C.C. (and Wollaston).

37. **R. arvensis,** L. 6—8, A. Colonist ; somewhat rare in the dist., but occasionally found estab. in arable fields.

1. Betw. Cudham and Chelsham, on Kent side of the County Boundary, '02. W.H.G.
2. Bank of Medway, Cuxton, '04. W.H.G.
3. Beckenham, Hayes Ford, '06 ; Bickley, '97. Sc.

39. **R. ficaria,** L. (LESSER CELANDINE), 3—5, P. V. abt. in wet places, by streams and in shady thickets. In more open and sunny spots it flowers more freely and produces less tubers.

40. **CALTHA palustris,** L. (KING-CUP, MARSH MARIGOLD), 4—6, P. Wet meadows ; com., but getting scarcer in the district.

1. Southend, Catford, '01 ; Crofton, '01 ; Eynsford, '03. W.H.G.
2. Woods nr. Barnhurst Stn., '03. R.H.C.
3. Hayes Ford, '97. Sc.

a. By pond, Greenwich Park, '01. A.D.W

(9) **HELLEBORUS,** L.

43. **H. viridis,** L. (Hellebore), 3—5, P. woody below ; woods and copses, chiefly on the chalk. A v. specialised fl., though green and therefore primitive in colour. Fl. spiral all through (another primitive character), protogynous, and only infrequently visited by bees.

1. Gad's Hill, abundant. Cherry.
2. Coppice betw. Farnborough and Down, '04. W.H.G.
3. Wood south of Upper Halling. Dod.
4. Wood in Chevening Park. Miss Worship.
5. High Elms, '93. A.D.W. ; '95, Sp.
6. Meopham. H.

a. Wood nr. Eynesford (Reeves) ; Down (Darwin)

44. **H. fœtidus,** L. 4—4, P. In bushy places on the chalk ; rare and local. All old records, no recent ones received.

a. Wood in Chevening Park (Miss Worship).
b. Greenhithe (Wollaston) ; nr. the large chalk pit, Halling. H. and M.

45. **ERANTHIS hyemalis,** Salisb. (Winter Aconite), 2—3, P. naturalised in thickets.

1. Abundant in avenue, at Cobham (planted), '90. Dod.

46. **AQUILEGIA vulgaris,** L. (Columbine), 6—7, P. Woods and thickets on the chalk ; locally abundant, but decreasing. Humble bee fl.

1. Cobham (Ridley) ; Halling, Cuxton. (Miss Wickham.)
2. Shoreham (Wollaston) ; Kingsdown (Cole) ; Swanley, H.
3. Common in woods on N. Downs. Shepherd.
4. Boarer's Wood, Abbey Wood, '04. R.H.C.

a. W. Wickham Woods, '93. Kennard.
b. Colony nr. Elmstead Lane, '94 ; destroyed, '95. Sc.

47. **DELPHINIUM ajacis,** L. (larkspur), 6—8, A. Alien or colonist, rare except in Cambridgeshire ; humble bee fl.

a. Charlton Sandpit, one pl., '03. C.H.G. (escape).
b. Dartford Gravel-pit, one pl., '88 ; rubbish heap in cornfield near Gravesend, one pl., '75. Dod.
c. Old gravel-pit, Beckenham, one pl., '96. Sc.
d. Waste ground, Bromley Hill, '84. Dr. Playfair.

48. **ACONITUM napellus,** L. (Monkshood), 6—7, P. River banks ; very rare.

1. Avery Hill, '06, and Greenwich Park, '01. (both introd.)

Note. —The Peony and Nigella are cultivated in gardens.

N.O. 4. *BERBERIDACEÆ.*

51. **BERBERIS vulgaris,** L. (BARBERRY), 5—6, Shrub ; hedges and woods ; rare. It is attacked by the spores of the Corn Rust (PUCCINIA GRAMINIS), which produces cluster-cups on the leaves (ÆCIDIUM BERBERIDIS).
    1. Belvedere (F. M. Webb) ; Dartford (Jackson).
    2. Meenfield Wood, on W. side of Darenth Valley, Shoreham, '05. W.H.G.
    3. One bush, roadside, nr. W. Wickham Stn. F.M.R.
    4. St. Pauls Cray Common, '07. C.H.G.
    a. One pl. Hayes Com., '97. Sc. (now gone, '06.).

NOTE.—The generally cultivated Barberry, with pinnate leaves and without spines is Mahonia.

N.O. 5. *MAGNOLIACEÆ.*

There are some splendid Magnolias in Greenwich Park ; also a fine Tulip-tree (LIRIODENDRON), 60 feet high.

N.O. 6. *LAURACEÆ.*

Several sp. of Laurus are cultivated in parks and gardens. L. NOBILIS is the Bay Laurel. The Cherry Laurel, so often planted in front gardens, is PRUNUS LAUROCERASUS (ROSACEÆ), which flowers freely in plantations on the Lower Tertiaries (Hayes Common, Bexley).

ALLIANCE VII. RHŒADALES.

N.O. 1. *PAPAVERACEÆ* (*including the Fumariaceæ*).

A. **PAPAVEROIDEÆ** (PAPAVERACEÆ, B. & H.).

65. **CHELIDONIUM majus,** L. (GREATER CELANDINE), 5—8, P. Denizen, hedges ; common, but invariably a garden escape, having once been cultivated for medicinal purposes.
    1. Keston, '05 ; Shoreham, '06. W.H.G.
    2. Lanes nr. Darenth, '02. J.F.B.
    3. Nr. Hayes, '97. Sc.

(20) **PAPAVER,** L.

56. **P. somniferum,** L. (OPIUM POPPY), 6—7, A. Colonist. The Indian Poppy is pure white ; this form, though introduced, is blotched with purple ; v. com. in chalky arable fields.

var. a.) **hispidum,** Wats. Keston, '02. W.H.G.
b.) **glabrum,** Wats. Keston, '02. W.H.G.

57. **P. rhœas,** L.(Corn Poppy), 6—8, A. colonist ; v. abt. in arable fields and waste places.

58. **P. dubium,** L. 5—7, A. Colonist ; dry places ; fairly common.
1. In a furze field, betw. Keston and Farnborough, '92. A.D.W.

var. b) **Lecoqii,** Lam. (distinct sp. Bab.). On chalk ; rare and local.
1. Railway banks, nr. Shoreham Stn. M.

59. **P. argemone,** L. 5—7, A. Colonist ; infreq. in the district.
a. Arable fields, Bromley and W. Wickham, '92, Sc. ; but not seen in '97.

60. **P. hybridum,** L. 6—7, A. Col. ; not infreq. on the chalk.
1. In a chalky field nr. Keston Church. A.D.W.

62. **GLAUCIUM flavum,** Crantz. (Yellow Horned Poppy). Com. on the seashore.
1. Grain Spit. Jackson.

Note.—Escholtzia (the Californian Poppy) and Platystemon are cultivated.

B. **FUMARIOIDEÆ** (Fumariaceæ, B. & H.).

(25) **CORYDALIS,** DC. (Neckeria, Scop.).

67. **C. lutea,** DC. 5—8, P. Naturalised on old walls ; rare ; a garden escape.

68. **C. claviculata,** DC. 5—8, A., climbing by tendrils. Not uncommon in the Woolwich district.
1. Eltham, H. ; Bostall Heath, '03. R.H.C.
2. Hedgebank behind Woolwich Cemetery. Dod.
3. Near Severndroog Castle. Dod.
4. W. Wickham Com., under furze bushes, '05. W.H.G.
a. Old records include Blackheath, Charlton Chalk-pit, and Abbey Wood.

(26) **FUMARIA,** L. (Fumitory).

73. **F. densiflora,** DC. 5—10, A. Colonist ; chalky fields ; not uncommon in district 2.

74. **F. officinalis,** L. 4—10, A. Colonist ; cultiv. fields and waste grounds ; very common.
a. First record, 1597 : " In a corne fielde between a small village called Charleton and Greenwich." Gerard.

75. **F. Vaillantii,** Lois. 5—8, A. Colonist ; chalky arable fields very rare.
    1. Betw. Swanley and Wilmington, '04. A. O. Hume.

76. **F. parviflora,** Lam. 5—8, A. Colonist ; chalky fields ; local
    1. Eynesford, M.
    a. Betw. Charlton and Greenwich, 1597.

NOTE.—Dicentra (Dielytra spectabilis) is cultivated.

N.O. 2. *CRUCIFERÆ.*

79. **CHEIRANTHUS cheiri,** L. (WALLFLOWER). Denizen ; on old walls, cliffs, etc. ; freq. but gen. a garden escape. The genuine wild form may be distinguished from the cultiv forms by the stiff, acutely-pointed leaves.

(29) **RADICULA,** Hill (NASTURTIUM, L.).

80. **R. Nasturtium-aquaticum,** *comb. nov.* (Brit. Mus. Cat. ; N. OFFICINALE, Br. R. OFFICINALIS, Groves), WATERCRESS, 5—10, P. Running water ; very common.

81. **R. sylvestris,** Druce, 6—8, P. Not uncom. on moist waste ground and old river gravels.
    1. Brook at Grove Park ; by railway, Bexley Heath. Dod.
    2. Nr. Beckenham Hill Railway Station, '04. W.H.G.
    3. Bromley, Hayes, '97. Sc.

82. **R. palustris,** Mœnch, 6—10, A. or B. Damp, waste ground ; local.
    1. Crown Woods ; roadsides, Plumstead. Dod.
    2. Stream betw. Grove Park and Mottingham. Dod.
    3. In dry pond in Gravel-pit, nr. Ravensbourne Railway Station, '01. W.H.G.
    4. Ditches at Farnborough, c. '92. A.D.W.
    5. Hayes, Beckenham, '97. Sc.
    a. Pits at Blackheath (1836).

83. **R. amphibium,** R. Br. (Associated by Bab. with the Horse-radish under the name ARMORACIA AMPHIBIA ; " a junction quite artificial," B. & H. In Brit. Mus. Cat. '07 as A. AMPHIBIA, Pet.) Wet places ; rare.
    a. Sparingly at Orpington, c. 92. A.D.W.

(30) **BARBAREA,** R. Br.

84. **B. lyrata,** Asch. (VULGARIS, Br.), 5—8, B. or P. ? Very common in wet places.
    1. Catford, '04. W.H.G.
    2. Fields nr. Shooter's Hill, '06. L.C.C.

88. **B. verna,** Asch. (PRÆCOX, Br. under VULGARIS, B.), 4—7, B. Alien or colonist ; cultiv. and waste places ; not common.
1. Plumstead. Dod.
2. One pl. in waste ground nr. Elmstead Lane, '96. Sc.
a. Ditch near Nunhead. Jackson.

(31) **ARABIS,** L. (ROCK CRESS).

93. **A. hirsuta,** Scop. 5—8, B. or P. Walls, chalkbanks ; not com.
1. Walls at Farnborough. Dyer.
2. Between Down and Orpington. H.
3. Stone. M.
4. V. com. at Avery Hill throughout the Gardens, apparently wild, '07. L.C.C.

94. **A. turrita,** L. 5, B. A very rare, if not extinct, alien.
a. Waste ground nr. Bromley Hill, '85. Dr. Playfair.

95. **A. glabra,** Bern. (PERFOLIATA, Lam.), 5—7, A. or B. Hedge-banks and sandy ground, among bushes ; rare and decreasing near London.
1. In patches on Hayes Com. and as a garden weed, '05. W.H.G.
2. On a bank near Chelsfield. A.D.W., Sc.
a. Reported more or less recently at Chislehurst, Bickley, and between Catford and Bromley.
b. All about Bromley, esp. towards Hayes, in profusion (1835).

(32) **CARDAMINE,** L.

96. **C. amara,** L. (BITTERCRESS), 4—6, P. Plentiful in its habitat, i.e. river banks and very damp meadows.
1. Crofton, '03. W.H.G. ; nr. Grove Park, Cole.
2. Banks of the Darenth Dod, W.H.G., M., and Webb.
a. Cator Estate, Beckenham, '97. Sc.
b. Lewisham (1762), Greenwich (1789), Keston (1836).

97. **C. pratensis,** L. (LADIES' SMOCK, CUCKOOFLOWER), 4—6, P. V. com. indeed by the sides of streams and in wet meadows. Vegetative reprod. by adventitious buds on radical leaves.

var. **flore-pleno** (double fls.) ; probably garden escapes.
1. In two stations at Keston, and in a field at Hollydale. A.D.W.
2. Crofton Lane, '07. W. Barnes, teste W.H.G.

98. **C. hirsuta,** L. 3—5, A. Walls, dry banks, cultiv. fields ; com.

99. **C. flexuosa,** With. 4—7, B. Moist meadows, banks, ditches ; com.
    1. Crofton, '01. W.H.G.
    2. Roadside ditch nr. Eden Park Station, '05. F.M.R.
    3. Hayes Common, '06. F.M.R.
    4. Woods betw. Orpington and Beckenham, '97. Sc.

LUNARIA biennis, Mœnch (HONESTY).
    1. A garden escape, Chelsfield, '04. W.H.G.

(33) **ALYSSUM,** L. Aliens only.

102. **A. incanum,** L. A mere casual.
    1. On Golf ground, Shortlands, '01. A. O. Hume.
    2. Refuse heap in field, Bexley, '06. L.C.C.
    3. Gravel-pit, Hayes, '05. W.H.G.
    4. Plumstead, Blackheath Park, Tripcock Ness, Woolwich Arsenal. Dod.
    5. E. Wickham brickfield, '07. J.F.B., W.H.G.

103. **A. alyssoides,** L. (CALYCINUM) L., 5—6, A. A mere casual.
    a. "A number of pls. growing by the roadside near Chelsfield," '94. Britton.

109. **DRABA verna,** L. (EROPHILA VULGARIS, DC.), WHITLOW GRASS, 3—5, A. Walls, dry waste ground ; very common.

(36) **COCHLEARIA,** L.

112. **C. officinalis,** L. (SCURVY GRASS), 4—6, B. Muddy shores ; very rare.
    a. Small quantity on the slope of the river facing the works of the Tel. Constr. and Maintenance Co., and along with Aster and Glaux, under the works of the Greenwich Sperm Candle Co. A large quantity a little further down the river, growing close to the water's edge, below the Bessemer Steel Co.'s Works, '75. F. M. Webb.
    b. First record, 1836 ; marshes betw. Greenwich and W'ch.

117. **C. anglica,** L. 4—6, A or B. Muddy seashores and estuaries.
    1. Dartford Marshes, '03. W.H.G.
    2. Woolwich and Plumstead Marshes. H. & M.

118. **ARMORACIA rusticana,** Gaertn. (COCHLEARIA ARMORACIA, L.), HORSE-RADISH, 5—6, P. Freq. in waste places as a garden throw-out

83. **A. amphibia,** Pet.—NASTURTIUM AMPHIBIUM, which see.

119. **HESPERIS matronalis,** L. 5—7, B. A garden escape.
1. Nr. Severndroog Castle, Shooter's Hill. Dod.
2. For years abt. on upper part of Keston Com. below the Mill, but now very scarce there. W.H.G.

(38) **SISYMBRIUM,** L.

120. **S. thalianum,** J. Gay. (ARABIS THALIANA, L.), 4—6.A. Dry waste places ; in some seasons plentiful nr. London (H. and M.), but uncertain in its appearance (Sc.).
1. Hayes Common, '03. W.H.G.
2. On a wall at Hollydale. A.D.W.
3. Railway Arch betw. W. Wickham and Hayes, '05. F.M.R.
a. First record : " In great abundance on the S. side of Greenwich Park wall " (c. 1780).

121. **S. officinale,** Scop. (HEDGE MUSTARD), 6—7, A. Dry banks, roadsides, fields and waste places ; common indeed.

var. b.) **leiocarpum,** DC. (with glabrous pods).
1. Woolwich Ars., Crossness, Plumstead Marshes. Dod.

123. **S. sophia,** L. 6—8, A. Colonist or native ; fields and roadsides, esp. nr. the sea ; not com.
1. Abbey Wood ; rubbish heap in Woolwich Ars. ; Wickham Lane ; nr. Bexley Heath ; bank nr. Crayford Mill ; Cotton Farm, Stone. Dod.
2. Brickfield, E. Wickham, v. abt. J.F.B. and W.H.G., '07.
a. Erith (c. 1851) ; Charlton (c. 1724).

S. orientale, L. Alien.
1. Abt. on Ash-heaps by the Old Proof Butts, Woolwich Ars. Dod.
2. Wickham Lane Brickfields. Dod.

125. **S. Irio,** L. (LONDON ROCKET). Alien. It sprang up amongst the ruins of the Fire of London in 1666, and is still recorded from localities nr. London. In our district it has probably long been extinct. On old walls.

S. Loeselii, Thuill, 7—8, A. A continental weed which has established itself in a few places.
1. Darenth, '98. Dr. Playfair.

126. **ALLIARIA alliacea,** *comb. nov.* (Brit. Mus. Cat.—SISYMBRIUM ALLIARIA, Scop.; ALLIARIA OFFICINALIS, Andrz), HEDGE MUSTARD, JACK-BY-THE-EDGE, GARLIC MUSTARD, 5—6, A. Very common in hedges.

(39) **ERYSIMUM,** L.

127. **E. cheiranthoides,** L. (TREACLE MUSTARD), 6—10, A. Colonist; dry stations; rather rare.
1. Goods Yard, Lower Sydenham Rly. Stn., '03. W.H.G.
2. Roadside, West Wickham, '04. W.H.G.
3. Woolwich Ars., Plumstead, Eltham Common. Dod.
4. E. Wickham Brickfield, '07. J.F.B. and W.H.G.
a. Hayes and Beckenham; abt. '92–'93, but only a few pls. in '97. Sc.
b. Sand-pit, Hayes Common. Britton.

128. **E. perfoliatum,** Crantz. (ORIENTALE, B.Br.). A rare casual.
1. A few pls. on some newly-turned river gravel, Woolwich Arsenal, '92. Dod.
2. Gravel-pit, Hayes Com., '92. Whitwell.

129. **CAMELINA sativa,** Crantz, 6—7, A. A corn and flax-field casual; waste places.
1. Gravel-pit, Hayes, '05. W.H.G.
2. Plumstead, Tripcock Ness, Woolwich Arsenal. Dod.
3. E. Wickham Brickfield, '07. J.F.B. and W.H.G.
a. Pretty freq. at Beckenham, Hayes and Chislehurst, '97. Sc. (probably BUNIAS ORIENTALIS).

C. sylvestris, Wallr. An alien.
1. Gravel-pit, Hayes, '05. W.H.G.

(42) **BRASSICA,** L.

131. **B. oleracea,** L. (WILD CABBAGE), 5—6, B. or P. Sea cliffs. The ancestor of the cabbage, cauliflower, brocoli, savoy, colewort, and brussels-sprouts.
1. A garden escape in railway cutting, E .of Dartford. Dod.
2. Dartford Brickfield (ditto), '04. R.H.C.

132. **B. campestris,** Navew. A group name for a series of weeds of cultivation not wild "in this, or any other country." (Sir J. Hooker). Where found they are only relics of cultivation. They include the cultiv. vegs.:—
1. **B. napus,** L. (RAPE).
2. **B. rutabaga,** DC. (SWEDES).
3. **B. rapa,** L. (TURNIPS).

SINAPIS, L. (MUSTARDS).

137. **S. nigra,** L. (BRASSICA NIGRA, Koch. ; B. SINAPIOIDES, Roth.), BLACK MUSTARD, 6—9, A. Arable fields, ditches, etc. ; frequent.
1. All over the Thames Marshes. Dod.

139. **S. arvensis,** L. (B. SINAPISTRUM, Boiss. ; B. SINAPIS, Vis.), CHARLOCK, 5—9, A. A v. abundant weed of cultivation.

140. **S. alba,** L. (WHITE MUSTARD), 5—7, A. Colonist ; a relic of cultiv. only. Seedlings used with "Cress" (LEPIDIUM SATIVUM) in "Mustard and Cress."

(43) **DIPLOTAXIS.** DC. (ROCKET).

142. **D. tenuifolia,** DC. (SINAPIS Sm. ; BRASSICA, Boiss.), 6—9, P. Old walls, etc., nr. the sea ; when inland prob. a denizen.
1. Belvedere. Webb.
2. Railway bank, St. Mary Cray ; Woolwich Ars. Dod.
3. Abt. in Charlton Pit, '07. R.H.C. and C.H.G.
a. Charlton Chalk-pit (1836), Greenhithe Chalk-pit ('35), Northfleet ('77).

143. **D. muralis,** DC. (BRASSICA Boiss. ; B. BREVIPES, Syme), 5—9, A. or B. Colonist ; fields and waste places ; common.
1. Garden plot, Chelsfield Rly. Stn., '04. W.H.G.

var. b.) **Babingtonii,** Syme.
1. Plumstead, Dartford (often growing with the type). Dod.

The variety is more common, esp. on the chalk, than the type. The var. has strong side branches from which the fl. peduncles come ; in the type the peduncles arise from the main axis.

144. **CAPSELLA bursa-pastoris,** Mœnch, (BURSA PASTORIS, Weber), SHEPHERD'S PURSE, 3—11, A. Waste ground everywhere. Fls. self-fertilised. The pl. is often attacked by a yellow rust (CYSTOPUS CANDIDUS). According to Willis, the fls. may be bi-sexual or *f.*, or both.

(45) **CORONOPUS.** Rupp. (SENEBIERA, Poir.).

145. **C. didymus,** Sm. (S. DIDYMA, Pers.), 7—9, A. A seacoast straggler.
1. Woolwich Arsenal, '92. Dod.

146. **C. procumbens,** Gil. (S. CORONOPUS, Poir. ; RUELLII, All.), 6—9, A. Cultiv. and waste plates, esp. nr human habitations ; common.
   1. Cultivated ground, Avery Hill, '06. L.C.C.
   a. Bromley, Hayes, '96. Sc.

(46) **LEPIDIUM,** L.

147. **L. latifolium,** L. (DITTANDER), 7—8, P. Waste plates near the coast ; rare and local.
   a. Deptford, '57.

148. **L. ruderale,** L. 5—7, A. Dry waste places, esp. near the sea ; only a casual inland.
   1. Woolwich Ars., Eltham, Plumstead, Crossness. Dod.
   2. Thames bank, Greenhithe, '02. W.H.G.
   3. Foxglove Road, Beckenham, '04 ; Crofton, '03. W.H.G.
   4. Elmer's End and West Wickham, '04. F.M.R.
   5. Bromley district, but uncertain in its appearance, '97. Sc.
   6. E. Wickham Brickfields, v. abt. '07. J.F.B. and W.H.G.

149. **L. sativum,** L. Only occurs as an escape from cultivation. Seedlings of this pl. are used in " Mustard and Cress."

150. **L. campestre,** R. Br. 5—8, A. or B. Common.
   1. Banks near Farningham Road Rly. Stn., '01. W.H.G.
   2. Roadside, Hayes Common, '00. W.H.G.
   3. On Railway Arch betw. W. Wickham and Hayes, '05. F.M.R.
   4. Gregory's Brickyard, Wickham Lane, '05. R.H.C.

151. **L. hirtum,** Sm. 5—8, P. Open dry grounds ; not common.
   1. Common on Hayes Common, '03. W.H.G.
   2. Bromley. Sc.

152. **L. draba,** L. 6—7, P. Alien naturalised in waste places, locally abt. in N. Kent. The pl. was introduced into England with the bedding straw of the invalid troops disembarked at Ramsgate from the Walcheren Expedition.
   1. Southend, '01. ; Railway banks about Brockley (very abt.), '05. W.H.G.
   2. Strong colony at Widmore, '97. Sc.

153. **THLASPI arvensis,** L. (Pennycress), 5—8, A. Casual in cultiv. fields ; not uncommon.

1. Chalk-pit, Birchwood Corner to Dartford Heath, '99. C.H.G.
2. Between Bexley and Swanley, '02. C.H.G.
3. Beckenham, Keston, etc., '97. Sc.
4. Scattered about Avery Hill (introd.), '05. L.C.C.
5. Field lane, between Bostal Heath and Wickham Lane, abundant, '07. J.F.B.

156. **IBERIS amara,** L. (Candytuft). Colonist, a weed of cultivation ; probably garden outcasts.

a. Gravel-pit, Shooter's Hill, '36.

157. **TEESDALEA nudicaulis,** R.Br. 4—6, A. A North of England pl. ; dry sandy ground, heaths ; rare.

1. Com. in the cultiv. parts of Avery Hill, no doubt introd. in the first place as seeds in soil attached to the roots of introd. pls., '06. L.C.C.

158. **HUTCHINSIA petræa,** R.Br. An extinct alien.

a. Eltham Churchyard (1835), on a wall which was pulled down in '93 (Dod). It grew there in company with Centranthus calcitrapa, another rare alien ; but both were originally put there.

159. **ISATIS tinctoria,** L. (Woad).

a. Woolwich, nr. Church (1763) ; Keston and West Wickham (old records).

BUNIAS orientalis, L. Casual ; very rare.

1 Crossness ; Plumstead ; Woolwich Arsenal. Dod.
2. A few pls. abt. Hayes and Beckenham, '97. Sc.
3. Sevenoaks Road, Halstead, '02. W.H.G.
4. Keston Common, '03. W.H.G.

160. **CAKILE maritima,** Scop. (Sea Rocket), 6—8, A. Sandy seashores.

1. On dredged river gravel, Woolwich Arsenal. Dod.

RAPISTRUM rugosum, All. Alien.

1. Arable field near Bellingham Rly. Stn., '04. W.H.G.

162. **RAPHANUS raphanistrum,** L. (Wild Radish). Colonist ; not uncommon in arable fields.

1. Same field as Rapistrum, '04. W.H.G.
2. Fields betw. Eltham and Chislehurst, '06. L.C.C.

N.O. 3. *RESEDACEÆ.*

(55) **RESEDA,** L.

165. **R. lutea,** L. (Wild Mignonette), 6—8, B. Dry places on the chalk ; common.

166. **R. luteola,** L. (Dyer's Rocket), 6—8, A. or B. Same as 165, but not so common.
1. Brickfields. Wickham Lane, Plumstead, '07. J.F.B. & W.H.G.

ALLIANCE VIII. SARRACENIALES.

N.O. 1. *DROSERACEÆ.*

629. **DROSERA rotundifolia,** L. (Sundew), 7—8, P. Insectivorous pl. growing in the boggy parts of heaths ; a calcifuge ; fls. rarely open, and generally self-fertilised in closed buds.
1. Bogs at Keston Common, '06. W.H.G., etc.
a. Chislehurst Common. Reeves.
b. Bogs at Cæsar's Camp, Bromley, Hayes, Bromley Common (1793).

Note.—To the same order belongs Dionæa muscipula (Venus' Fly-trap), while the American Pitcher pls. (Sarracenia and Darlingtonia) belong to an allied insectivorous order, the Sarraceniaceæ, and the Malay Pitchers to the Nepenthaceæ.

ALLIANCE IX. ROSALES.

N.O. 1. *CRASSULACEÆ.*

(130) **SEDUM,** L.

618. **S. telephium,** L. (Orpine), 7—8, P. Woods and banks ; locally abundant.
1. St. Paul's Cray Common. Dod.
2. By field footpath, Crofton, '05. W.H.G.
3. Frequently in woods at Down, '06. W.H.G.
4. Hedgebank nr. Swanley Junction. Webb.
5. Bromley, Hayes, and Orpington, '97. Sc.
a. Charlton and Shooter's Hill (1787).

621. **S. dasyphyllum,** L. A scarce alien.
1. On an old wall at Farningham. Webb.

622. **S. anglicum,** Huds. 6—8, A. or P. Sandy and rocky places ; local.
1. Wall-top, Gravesend. Holmes.
2. Old wall at Shortlands, '96. Sc. (introd.)

623. **S. acre,** L. (Biting stone-crop), 6—7, P. Walls and dry places ; common.

1. Plentiful on Hayes and Keston Commons in a starved form, '06. W.H.G.
2. Walls of St. Mary's Churchyard, Woolwich, '07. J.F.B.

624. **S. sexangulare,** L. Alien ; on old walls ; very rare, probably extinct.

a. South side of Greenwich Park wall (1787).

625. **S. reflexum,** L. 7—8, P. Alien ; walls and dry places ; rather frequent.

1. Well-established on Keston Common among brambles Near the Mill, '06. W.H.G.
2. Bromley. Cole.
3. Chelsfield. H.

626. **S. rupestre,** L. A very rare alien on old walls.

1. Higham Street. H.

628. **SEMPERVIVUM tectorum,** L. (Houseleek), 6—7, P. Alien ; walls and roofs (to keep the slates in position) ; always planted ; not uncommon.

1. Red Hill, Chislehurst ; near Erith Station. Dod.
2. On roof of old cottage behind the "Fox and Hounds," Eynsford, '06. L.C.C.

Note.—To this order also belong the fleshy-leaved Crassulas and Cotyledons and Bryophyllum, the edges of whose leaves, if pinned to the ground, bear adventitious plants.

N.O. 2. *SAXIFRAGACEÆ.*

(214) SAXIFRAGA, L.

598. **S. tridactylites,** L. 4—7, A. Walls and v. dry places ; com.

1. Garden Wall, Down Village, '03. W.H.G.
2. Wall, W. side of Bromley Road, Southend, '05. W.H.G.
3. Old gravel pit by road below W. side of Hayes Common, '07. W.H.G.

a. Old Wall at Farnborough. A.D.W.
b. Wall in Hayes Village, '79. Dr. Playfair (now extinct).
c. W. Wickham, '95. Sc.
d. Lane to Blackheath, '00. C.H.G.

595. **S. umbrosa,** L. (London Pride). The plant us. found in gardens is var. b. punctata, sometimes met with as an escape.

601. **S. granulata,** L (Meadow Saxifrage), 4—6, P. Hedge-banks, heaths and moist meadows; locally abundant. Bulbils produced in the axils of the lower leaves.

1. Hayes Common; Coney Hill; W. Wickham Common; Holwood Park (by side of public footpath), '06. W.H.G
2. St. Mary Cray; near Darenth. Dod.
3. Between Orpington and Farnborough; wood-borders about Shoreham. Britton.
4. Greenhithe, Cuxton, Cobham, etc.

(125) **CHRYSOPLENIUM,** L. Small greenish fls., perigynous and apetalous, visited by small insects, and perhaps snails.

608. **C. oppositifolium,** L. 4—6, P. Damp shady places; local. Fls. bi-sexual or *m.*

1. Moss-covered ditch in coppice, Crofton, '01. W.H.G.
2. Wood near E. Wickham. Dod.
3. Boarer's Wood, Abbey Wood, '04. R.H.C.

a. Charlton Wood and Chislehurst (first record only, 1633).

609. **C. alternifolium,** L. Boggy places; rare.

a. Only a first record: Charlton Wood, 1746.

610. **PARNASSIA palustris,** L. 8—10, P. Wet and boggy ground.

a. Only once recorded in Kent: Keston Common about '82. Dr. Playfair (prob. an attempted introduction).

(127) **RIBES,** L. (Ribesiacæ, Bab. and Brit. Mus. Catalogue).

611. **R. grossularia,** L. (Gooseberry), 4—5, Shrub. Woods, hedges, but probably always bird-sown from garden fruit.

1. Hedge, Down Road, Keston, '03. W.H.G.

612. **R. rubrum.** L. (Red Currant), 4—5, Shrub. Denizen; hedges, damp shady woods. Bee flowers.

1. Chalk-pit, Greenhithe. Dod. (prob. in a deserted garden).
2. Quite a sprinkling of pls. in the woods, Castor Estate, Beckenham, '96. Sc.

a. Wood between Chislehurst and Orpington (1793).

613. **R. nigrum,** L. (Black Currant), 4—5, Shrub. Denizen; damp copses. Few insect visitors; generally self-fertilised.

1. Chalk-pit, Greenhithe. Dod. (as in 612).
2. Wood at Crofton, nr. Orpington, '05. W.H.G.
3. One bush by riverside, two others in moist part of the Woods, Castor Estate, Beckenham, '97. Sc.

Note.—To this order also belong the Hydrangeas, Syringa or Mock Orange Blossom (Philadelphus) and Deutzia, certain sp. of all of which are cultivated in Avery Hill and Greenwich Park.

N.O. 3. *PLATANACEÆ.*

PLATANUS orientalis, L. var. **acerifolia** (Oriental Plane), a Deciduous Tree more commonly planted in London thoroughfares than any other. They are at once recognised by their large leaves, annually renewed scaly bark, and little balls of fruits hanging down on strings from the branches.

N.O. 4. *ROSACEÆ.*

(110) **PRUNUS,** L. Fl. buds formed the previous autumn.

419. **P. spinosa,** L. (Communis, Huds.), 4—5, Sloe or Blackthorn; D. shrub. Hedges and thickets; v. common. 420 and 421 are now regarded as varieties of spinosa (Bab. B. and H., Brit. Mus. Cat.).

420. **P. insititia,** Huds. (Bullace), 4—5, D. Shrub. Not uncom.

1. Kidbrook, Jackson; Keston, Britton.
2. Roadsides and ditch-banks, Plumstead Marshes; S.E. border, Darenth Wood. Dod.
3. Keston, '96. Sc.

421. **P. domestica,** L. (Wild Plum), 4—5, D. Tree, the ancestor of our cultivated plums and damsons; naturalised.

1. Hedge W. of Puddledock, formerly orchards. Dod.
2. Nr. Lullingstone; Cliffe. H.
3 Hayes Lane, nr. Pickhurst, '97. Dr. Playfair

422. **P. avium,** L. (Wild Cherry; included under P. cerasus in B's Handbook, '92), 5, D. Tree, the ancestor of the Morella cherry.

1. Frequent in coppices at Keston and Crofton, '06. W.H.G.

423. **P. cerasus,** L. (DWARF CHERRY), 5, D. Shrub. Woods, hedges ; frequent ; the ancestor of the sweet varieties of cultivated cherries. It keeps its leaves longer in S. Europe, and in Ceylon is an evergreen.
1. South side of Hayes Common, '06. W.H.G.
2. Barnhurst, '06. R.H.C.

424. **P. padus,** L. (BIRD CHERRY), 5. Planted.
1. Lullingstone. H.
a. Back of Shrewsbury House, Shooter's Hill (1836).

NOTE.—Cultivated sp, of Prunus include :
1. P. armeniaca (Apricot), from Turkestan and Mongolia.
2. P. amygdalus (Almond), from Turkestan and C. Asia.
3. P. persica (Peach, Nectarine), prob. from N. China.
4. P. laurocerasus (Cherry Laurel), an evergreen shrub from the Medit., commonly planted in gardens. Near the base of the leaves on either side of the midrib are two extra-floral nectaries, showing through as brownish patches. It fls. freely away from the town.
5. P. lusitanicus (Portuguese Laurel), with reddish shoots and petioles, grown in parks and gardens.

(111) **SPIRÆA,** L.

426. **S. ulmaria,** L. (MEADOW-SWEET), 6—8, P. Damp meadows, copses, and river-banks ; very common. Very sweet-scented, but no honey.

427. **S. filipendula,** L. 5—7, P. Dry chalky pastures ; local.
a. Nr. Kingsdown, Cole ; common on the chalk. Reeves.

NOTE.—The so-called Spiræa, commonly hawked round the streets, is Astilbe japonica (Saxifragaceæ).

(112) **RUBUS,** L. (BRAMBLE), gen 5—8, all Shrubs exc. R. saxatilis and chamæmorus, which are herbs. A bewildering genus to systematists, and one still in a state of transition. Of the various modifications assumed by the Brambles some are no doubt constant, but others are a question of environment. B. and H. regard the vast host of critical species enumerated below (with the exception of R. idæus and cæsius), as all derivatives of one form, R. fruticosus, L. Bab (9th Ed., 1904) gives 49 specific forms, while the Rev. W. Moyle Rogers, our authority on the British Rubi, in his monograph, describes 112 critical species, besides numerous sub-species and varieties. But many of Roger's sp. are prob. hybrids ; see "Observations on 'Set of British Rubi' by Prof. H. Sudre, Angers, 1904." We have followed Rogers (ex Bab.).

428. **R. idæus,** L. (Raspberry). Damp hedges of woods and heaths ; not at all common in the district.
1. Keston Common, '06. W.H.G.

515. **R. cæsius,** L. (Dewberry). Common in the district on chalk and clay ; rather rare in the sand. (H. and M.)

R. fruticosus, L. (Bramble, Blackberry), the group-name for all the sp. enumerated below.

429. **R. fissus,** Lindl. Wet places ; rare and local.
1. Hayes Common, '98. A. O. Hume.

430. **R. plicatus,** W. and N. Heaths ; rare.
1. Plentiful W. Chislehurst Common Dod.
2. Dartford. Henslow.

433. **R. Rogersii,** Linton. Very rare.
1. Hayes Common, '92. De Crespigny teste Rogers.

438. **R. affinis,** W. and N. Very rare.
1. Slopes E. of Plumstead Com., '92. Dod teste Rogers.

442. **R. carpinifolius,** W. and N. Rare.
1. Chislehurst Common in plenty, '95. Dod.
a. Chislehurst and Hayes Commons. De Crespigny.

444. **R. Lindleianus,** Lees. Common.
1. Paul's Cray. H. Groves.
2. Hayes, Chislehurst, and Keston Commons, '77. De Cr.

447. **R. rhamnifolius,** L. Common.
1. Charlton, Plumstead. Dod.
2. Paul's Cray Common. H.
3. Chislehurst, Hayes Common. De Cr.

449. **R. pulcherrimus,** Neum. Frequent.
1. Plumstead Common ; Bostall Heath. Dod.

var. b.) **setosus,** A. Ley.
1. Near E. Wickham Church ; W. Wood Lane. Dod.

453. **R. villicaulis,** Kaul. Sub-sp. **Selmeri,** Lindeb. Rare.
1. Dartford Heath. Dod.

455. **R. gratus,** Focke.
1. Slade's Ravine, Plumstead Common. Dod.

458. **R. argentatus,** P. I. Muell. Locally abundant.
1. Crookhorn Wood, near Trottescliffe. Rogers.

var. b.) **robustus.**
1. Path to Wickham Wood. Dod teste Focke

459. **R. rusticanus,** Merc. The commonest of all the Kent Brambles, especially on the chalk.

460. **R. pubescens,** Weihe.

var. b.) **subinermis.** Type not found in Kent; var. freq.
1. Road to Crown Woods. Dod.
2. Darent Wood; hedges, Beckenham; Chislehurst Common. De Cr.
3. Keston. H. Groves.

463. **R. macrophyllus,** W. and M. Not uncommon.
1. Westwood Lane; Bostall Heath; E. Wickham. Dod.
2. Wood near Swanley. H. teste Rogers.

468. **R. Sprenglii,** Weihe. Frequent.
1. Shrewsbury Lane and Crown Woods Dod teste Rogers.
2. Hayes and Keston Commons. De Cr.

471. **R. pyramidalis,** Kalt.
1. E. Wickham. Dod.

472. **R. leucostachys,** Schleich. Very common.

476. **R. mucronatus,** Blox. Very rare ?
1. Roadside between Eltham and Queen's Wood. Dod.

478. **R. anglosaxonicus,** Gelert. Local.
1. Crown Woods, '92. Dod teste Rogers.

R. raduloides, Rogers (under 478, Lond. Cat.).
1. Dartford Heath. Dod teste Rogers.

R. Drejeri, G. Jensen. Very rare.
1. Slade's Ravine, Plumstead, '94. Dod teste Focke.

483. **R. radula,** Weihe.
1. Shooter's Hill. Dod teste Rogers.

var. b.) **anglicanus,** Rogers. A frequent form, but not reported from the district.

var. c.) **eclinatoides,** Rogers. Shooter's Hill. Dod teste Rogers.

484. **R. podophyllus,** P. I. Muell. Very rare.
1. Slade's Ravine, Plumstead. Dod.

485. **R. echinatus,** Lindl. Not rare.
1. Bostall Heath; West Wood Lane; Eltham. Dod.

487. **R. rudis,** W. and N. Locally plentiful.
1. Near Chelsfield. H. Groves.

490. **R. Babingtonii,** Bell Salt. Common.
1. Bostall Heath, Shooter's Hill, E. Wickham, Chislehurst Common. Hanging Woods, Charlton. Dod.

491. **R. Lejeunii,** W. and N.

var. b.) **ericetrorum,** Lefv.
1. Roadside between Avery Hill and Queen's Wood. Dod teste Rogers.

494. **R. Bloxamii,** Lees. Very local.
1. Keston Common, '01. Rev. E. F. Linton.

495. **R. scaber,** W. and N. Probably common.
1. Wood near Swanley. H. teste Rogers.

497. **R. fuscus,** W. and N. Locally common.
1. Plum Lane; Bostall Heath; Shooter's Hill; Plumstead Common; Hanging Wood, Charlton; Chislehurst Common. Dod.

var. b.) **nutans,** Rogers.
1. Shooter's Hill; Bostall Heath. Dod teste Rogers.

498. **R. pallidus,** W. and N. (Roger's Conspectus). Very rare.
1. Path opposite the "Bull Inn," Shooter's Hill. Dod.

var. **leptopetalus,** Rogers.
1. Chislehurst Common, '99. Rogers.

500. **R. longithyrsiger,** Bab. Rare.
1. Crown Woods (several acres). Dod teste Rogers.
2. Between Avery Hill and Queen's Wood. Dod.

502. **R. foliosus,** W. and N. Common.
1. Shooter's Hill; Eltham; West Wood Lane. Dod.
2. Keston and Hayes Commons. De Cr.
3. Darenth Wood; Gad's Hill (Woods). De Cr.

503. **R. rosaceus,** W. and N. A variable form, probably common
1. Beckenham. De Cr.

var. b). **hystrix,** W. and N.
1. St. Paul's Cray; Keston. De Cr.

var. e). **infecundus,** Rogers. Very rare.
1. Shooter's Hill. Dod teste Rogers.
2. Hayes, Bromley, Chislehurst. De Cr.

(504) Subsp. **Powellii,** Rogers. Very rare.
1. Crown Woods; by a path up Shooter's Hill from Plumstead. Dod.

(505) Subsp. **adornatus,** P. I. Muell. Local.
1. Keston Common. H. Groves teste Rogers.

506. **R. Koehleri,** W. and N. Not infrequent.
1. Crown Woods. Dod.
2. Beckenham, Chislehurst. De Cr.

508. **R. Marshalli,** Focke and Rogers. Rare.
1. Two or three bushes on Bostall Heath, '73. Dod.

510. **R. viridis,** Kalt. Locally abundant.
1. Wood near E. Wickham ? Dod.

516. **R. serpens,** Weihe.
var. b.) **rivularis,** M. and W. Rare.
1. Road to Crown Woods, Shooter's Hill. Dod teste Focke.

517. **R. hirtus,** W. and K. Probably not uncommon.
Subsp. **Kaltenbachii,** Mets.
1. Crown Woods (in plenty) ; Woods near Northumberland Heath. Dod.

522. **R. dumetorum,** W. and N. Very common and very variable.
var. **ferox,** Weihe.
1. Crown Woods. Dod.
var. **diversifolius,** Lindl.
1. Cliffe, H. ; Holly Hill, Rogers.
var. **britannicus,** Rogers.
1. Keston Common ; near Orpington. H. Groves ex Rogers.

523. **R. corylifolius,** Sm. Very common.

524. **R. Balfourianus,** Blox. Probably not rare.
1. Crown Woods, Shooter's Hill. Dod.

529. **GEUM urbanum,** L. 6—7, P. Hedges and woods ; very common. Fls. have a tendency to become *m.* only.

(115) **FRAGARIA,** L.

531. **F. vesca,** L. (Wild Strawberry), 4—6, P. Roadsides and banks ; common. Three kinds of fl. : complete, *m.* and *f.*

532. **F. moschata,** Duchesne (elatior, Ehr.). Naturalised alien ; very rare.
1. Darenth Wood. Dod.
a. Railway banks between Blackheath and Woolwich (together with F. virginica). Jackson.

(116) **POTENTILLA,** L.

533. **P. norvegica,** L. Alien.
1. Waste places, Woolwich Arsenal, '94. Dod.
2. Roadside bank, Down, '01. W.H.G.
3. Near Elmer's End Rly. Station, '04. C. P. Hurst.
4. Charlton sandpit, '07. J.F.B. and W.H.G.

535. **P. sterilis,** Garcke (FRAGARIASTRUM, Ehr.).
3—5, P. Very common indeed.

538. **P. sylvestris,** Neck. (TORMENTILLA, B. & H.), 6—8, P. Dry places ; very common indeed.

(539) var. b.) **procumbens,** Sibth. Woods and hedgebanks ; not uncommon.
1. Nr. Crayford, Dod ; Joyden's Wood, Jackson.
2. Orpington, Britton ; Woods south of Cliffe, M.

P. procumbeus x reptans (P. MIXTA, Nolte). Not uncommon.
1. Orpington. Britton.
2. Railway bank below Crayford. Dod.

P. procumbens x silvestris (P. SUBERECTA, Zimm.).
1. Near Halstead. Britton.

540. **P. reptans,** L. 6—9, P. Roadsides and banks ; very common.

541. **P. anserina,** L. (SILVERWEED), 6—8, P. Roadsides ; very abundant.

543. **P. argentea,** L. 6—7, P. Gravelly places, local.
1. Hayes Common, '04. W.H.G.
2. Roadside, Eden Park and W. Wickham, '04. F.M.R.
3. Bostall Heath, Eltham, Chislehurst, etc. Dod.
4. Nr. Abbey Wood ; above Belvedere ; Plumstead ; Sidcup, etc.
5. Greenwich Park. A.D.W.

P. recta, L. Alien.
1. A few pls. between Hayes and Beckenham, '95–7 (named at Kew, '96). Sc.
2. One large pl. in gravel-pit nr. Hayes, '05. F.M.R.

545. **COMARUM palustre,** L. (P. PALUSTRIS, Scop. ; COMARUM, Nestb.). Bogs, etc. ; very rare.
a. Marshes, Keston Common, '36 ; but not reported since.

(117) **ALCHEMILLA,** L. (LADIES' MANTLE). Fls. inconspicuous, visited by flies ; parthenogenesis frequent.

547. **A. arvensis,** Scop. 5—8, A. Fields, banks, waste ground very common.

548. **A. vulgaris,** L. 6—8, P. Moist pastures ; rare.
a. No authentic records.

(118) **AGRIMONIA,** L. (Agrimony).

551. **A. eupatoria,** L. 6—8, P. Fields and roadsides ; very com.

552. **A. odorata,** Mill. 6—8, P. Bushy and waste places ; rare.
a. Plumstead Marshes, 1858.

(119) **POTERIUM,** L.

553. **P. sanguisorba,** L. 6—8, P. Downs, banks and copses, chiefly on the chalk ; very common. The fl. is green, contains no honey, has prominent red stamens, and is generally wind pollinated.

554. **P. polygamum,** W. and K. 6—7, P. Naturalised alien ; dry places ; rare.
1. Fields between Northfleet and Greenhithe. Reeves.
2. Cudham, '03. W.H.G.

(120) **ROSA,** L. 6—7, Shrubs ; another variable genus. Pollen fls.

556. **R. spinossisima,** L. (pimpinellifolia), L. Local.
1. Downs above Ryarsh, in plenty. M.
2. In a hedge and along a woodland nr. Orpington, '92 A.D.W.

557. **R. involuta,** Sm. (hybrid between 556 and 560, Crépin).
1. Chalk hills above Halling. M. and Dod.

560. **R. tomentosa,** Sm. (under R. villosa, B. & H.). Woods and hedges ; frequent.
1. Eltham ; Darenth Wood. Dod.
2. Shoreham. M.
a. Charlton Wood (1763) ; Keston (1877).

561. **R. eglanteria,** L. (rubiginosa, L. B. & H.), Sweet Briar. Downs, banks, hedges, especially on the chalk ; locally abt.
1. Warbank, Keston, '03. W.H.G.
2. Several pls. round Lake at Hollydale, '92. A.D.W.
3. Dartford Heath ; Downs above Halling, abt. Dod.
4. Three pls. in an old gravel-pit, Beckenham, '96. [illegible] Sc.
5. Downs, Eynsford, '06. R.H.C.
a. Hayes Common, one bush, '77.
var. b.) **comosa,** Ripart.
1. Slopes above Halling. Dod teste Murray.

562. **R. micrantha,** Sm. (under rubiginosa, B. & H.). Common.
1. Shoreham Downs, common. H. and M.
var. c.) **hystrix,** Leman.
1. Dartford Heath ? Dod.

564. **R. obtusifolia,** Desv. (under CANINA, B. & H.).

var. c.) **tomentella,** Lem.
1. Belvedere; Hanging Woods, Charlton; between Eltham and Shooter's Hill. Dod.

565. **R. canina,** L. Hedges, woods. Very common.

var. a.) **lutetiana,** Lem.
1. Darenth Wood. Dod.

var d.) **senticosa,** Bak.
1. Between Shooter's Hill and Eltham. Dod teste Rogers.

var. e). **dumalis,** Bechst. Prob. the most abt. form.
1. Hayes Common, '03., W.H.G.; '97, Dr. Playfair.

var. i.) **urbica,** Lem. A common form.
1. Paul's Cray Common, '02; Keston Com., '01. W.H.G.

var. j.) **dumetorum,** Thuill.
1. Dartford Heath. Dod.
2. Near Shoreham. M.

var. k.) **arvatica,** Bak.?
1. Between Shooter's Hill and Eltham. Dod teste Rogers.

567. **R. stylosa,** Desv. (under CANINA, B.; ARVENSIS, H.).

var. b.) **systyla,** Bast. Local; not uncommon.
1. Wood near Shrewsbury House, Shooter's Hill. Dod.
2. Dartford Heath. Dod.
3. Shoreham, Bromley, Halling, Holly Hill, etc.

568. **R. arvensis,** Huds. Thickets, hedges; very common.

(121) **PYRUS,** L. D. Trees; all protogynous.

576. **P. torminalis,** Ehrh. (WILD SERVICE-TREE), 4—5, Woods and hedges; local.
1. Whitefoot Lane, Southend, Catford, '02. W.H.G.
2. Crown Woods, '06. Miss Mockeridge.
3. Ranger's Ground, Greenwich Park (seedlings have been picked up). A.D.W.

577. **P. aria,** Ehrh. 5. Woods and hedges on the chalk; frequent.
1. Keston, but more frequent towards Down. Sc.
2. Hedge near High Elms; by disused chalk-pit, Down. A.D.W.
3. Greenwich Park (wild). A.D.W.

581. **P. pinnatifida,** Ehrh. (AUCUPARIA **X** ARIA ?).
1. Darenth Wood. Prof. Henslow.

582. **P. domestica,** Ehrh. (THE CULTIVATED PEAR). Not indigenous.

583. **P. aucuparia,** Ehrh. (Mountain Ash), 5—6. Woods and hedges ; gen. planted, sometimes bird-sown ; frequent.
1. Holwood ; Hayes Common, '97. Sc.
2. Bostall Heath, '00. C.H.G.
3. Boarer's Wood, Abbey Wood, '03. R.H.C.

584. **P. communis,** L. (Wild Pear), 4—5. Denizen or alien ; hedges, woods ; not common, and probably always bird-sown.
1. Chislehurst Common. Holmes.

586. **P. malus,** L. (Crab Apple), 5. Common ; scent strongest at night ; visited chiefly by moths.
var. a.) **acerba,** DC. The True Crab.
1. Nr. Avery Hill ; Eltham Common ; Mottingham Lane. Dod.
2. Keston Common, '02. W.H.G.
var. b.) **mitis,** Wallr., with large fls. ; probably always a degenerate garden apple ; far more frequent than acerba.
1. Down, '05. W.H.G.

587. **MESPILUS germanica,** L. (under Pyrus, H.), 5—6. Hedges and thickets ; very local.
1. Giant tree near Mound, Greenwich Park. A.D.W.

CYDONIA vulgaris, Pers. Two fruit-bearing trees in roadside hedge of meadow, near Chelsfield village, probably bird sown from tree in a neighbouring cottage garden, '07. W.H.G.

AMELANCHIER canadensis, Torrey and Gray.
1. Chislehurst Common, '03. A. O. Hume.
2. Greenwich Park. A.D.W.
3. Hayes Common, '06. W.H.G.

This N. Am sp. has been stated not to ripen its fruit in this country, but as the shrub on Hayes Common was not planted by human agency, and occurs in neighbouring pleasure grounds, I doubt the accuracy of the statement. W.H.G.

588. **CRATÆGUS oxyacantha,** L. (Hawthorn), 5—6. Woods and hedges ; very common.
var. a.) **oxyacanthoides,** Thuill.
1. Crown Woods ; Plumstead Common ; Grove Park. Dod.
2. Above Upper Halling ; Strood ; Holly Hill, etc.
var. b.) **monogyna,** Jacq. the more common form, especially in Kent.
var. c.) **laciniata,** Wallr. Leaves more deeply cut than b).
1. Crown Woods ; E. Wickham ; Plumstead Marhses. Dod.

Note.—Kerria japonica, DC., is commonly planted in parks and gardens, especially the double-flowered form.

N.O. 5. *LEGUMINOSÆ. The 2nd largest group of fl. pls. Root tubercles on most specimens.*

SUB-ORDER 1. **MIMOSOIDEÆ.** Foreign.

Acacia, L. (Wattles).

Mimosa, L. M. PUDICA is the sensitive pl. cultivated in greenhouses (Chelsea Physic Gardens).

SUB-ORDER 2. **CÆSALPINIOIDEÆ.** Foreign.

SUB-ORDER 3. **PAPILIONATÆ** (PAPILIONACEÆ, B. & H.). As a body bee-fls., some lepidotera fls.

(93) **GENISTA,** L. Pollen fls. ; bees alone capable of exploding the fl.

333. **G. anglica,** L. 5—6, Shrub. Moist peaty heaths ; local.
1. Hayes and Keston Commons, '06. W.H.G., Sc., etc.
2. Dartford Heath.

335. **G. tinctoria,** L. 7—9, Shrub. Pastures and thickets, usually on clay ; rather frequent.
1. Pl. in places on E. bank of the Ravensbourne Valley from the "Salt Box" to Biggin Hill, Cudham ; also in valleys in the chalk near Down, '06. W.H.G.
a. Once abundant between Bromley and Pickhurst. Spooner.

(94) **ULEX,** L. (FURZE, WHIN or GORSE). Pollen fls. ; bees alone capable of exploding the fl. Young seedlings possess trifoliate leaves.

336. **U. europæus,** L. 2—6, and again in autumn, Shrub. Heaths and commons ; locally abundant.

338. **U. nanus,** Forst. 7—10, Heaths ; local.
1. Abundant on Hayes and Keston Commons, '06. The flowering period is about intermediate betw. the two of U. EUROPŒUS, W.H.G.

339. **SAROTHAMNUS scoparius,** Wimm. (CYTISUS SCOPARIUS, Link. ; S. VULGARIS, Wimm)., BROOM, 5—6, Shrub. Dry hills and heaths ; frequent.

(96) **ONONIS,** L. No honey ; pollen extruded by the piston mechanism. The confusion between the two species makes the records unreliable.

340. **O. repens,** L. (under ARVENSIS, B. ; under SPINOSA, H.), REST-HARROW 6—9, P. Barren sandy places ; common.

341. **O. spinosa,** L. (under ARVENSIS, L. B.), 6—9, P. Barren places ; not so common as 340. Under cultivation this sp. quickly ceases to form spines, a remarkable adaptation to environment (Henslow).

a. No recent records for the district, except Cliffe, H.

343. **TRIGONELLA ornithopodioides,** DC. (PURPURASCENS, Lam.), 6—7, A. Dry sandy places ; local.

a. No recent reliable records.

(98) **MEDICAGO,** L. Honey fls., opening explosively.

344. **M. sativa,** L. (LUCERNE), 6—7, P. Alien, grown for fodder ; a frequent escape from cultivation.

1. Sheep pastures, Kingsdown and Ash. L.C.C.

346. **M. falcata,** L. 6—7, P. A rare straggler.

1. Casual at Plumstead Common. Dod.

347. **M. lupulina,** L. (BLACK MEDIC), 5—8, A. or B. (P. in the Alps). Another fodder pl. ; found wild in waste places ; very common.

348. **M. denticulata,** Willd. 5—8, A. Sandy ground near the sea ; rare.

1. Crossness ; Tripcock Ness. Dod.
2. Dartford. H.
3. Waste ground within gate of strawberry field between Chelsfield and Lullingstone, growing with TRIFOLIUM RESUPINATUM, '03. W.H.G.

NOTE.—Such places should always be examined for casuals. Manure, straw for mulching, and horses' nosebags are temporarily deposited there, and frequently drop the seeds of interesting aliens. W.H.G.

a. St. Mary Cray Station, '85. Dr. Playfair.

349. **M. arabica,** Huds. (MACULATA, Willd. B. and H.), 5—8, A. Gravelly soils ; common.

1. Keston Common, '02. W.H.G.
2. Gravel-pit, Holly Hill Estate, Belvedere, '04. R.H.C.

(99) **MELILOTUS,** Hill (MELLILOT). Honey fls. adapted to bees.

351. **M. officinalis,** Lam. 6—8, B. Waste places ; frequent ; on drying this pl. gives off a strong odour of new-mown hay (cumarin).

1. Brickfield near Dartford Heath, '03. R.H.C.

352. **M. alba,** Desr. 7—8, B. Alien, not permanent ; rare.
1. Lee ; Woolwich Arsenal ; Crossness. Dod.
2. Old chalk-pit just above the Marshes, Northfleet, '03. W.H.G.
3. Beckenham, Chislehurst, '97. Sc.
4. E. Wickham brickfield, '07. J.F.B. & W.H.G.
a. Erith Sandpits, '77.

353. **M. petitpierreana,** Hayne (ARVENSIS, Wallr.), 6—8, B. Alien becoming a colonist ; rare.
1. Woolwich Arsenal ; Crossness ; Plumstead ; Lee ; railway near Bexley Heath. Dod.
2. Gravesend. Holmes.
3. Old chalk-pit just above the Marshes, Northfleet, '03. W.H.G.
4. E. Wickham brickfield, Charlton sandpit, abt. '07. J.F.B. and W.H.G.

(100) **TRIFOLIUM,** L. (CLOVER). Honey fls. adapted to bees.

355. **T. subterraneum,** L. 5—6, A. Gravelly places ; locally abt. For the subterranean inflorescences, see Willis' "Flowering Plants and Ferns," or Lubbock's "British Flowering Plants."
1. Near Abbey Wood, H. ; Lane End, Dod.
2. Hayes Common, '04. W.H.G.
3. Chislehurst. Wollaston.
4. Slade's Green, near Dartford, '03. W.H.G.
a. Old records from Deptford, Greenwich, and Blackh'h.
b. First record, 1670 : "In the road between Eltham and Deptford."

356. **T. pratense,** L. (RED or PURPLE CLOVER), 5—9, P. Wild and cultivated ; abundant everywhere ; with repens common in turf and prepared pastures.

357. **T. medium,** L. 6—9, P. Dry elevated pastures, hedges, etc. ; local.
1. Hayes Common ; The Scrubs, Bromley Common, '06. W.H.G.

358. **T. ochroleucon,** Huds. 5—7, P. Dry pastures ; very rare.
a. Only old records.

359. **T. squamosum,** L. (MARITIMUM, Huds.) 5—6, A. Muddy salt marshes.
1. Port Victoria and Grain. M.
2. E. Wickham brickfield, '07. J.F.B. and W.H G.
a. Erith Marshes and Gravesend, '36 ; Dartford, 1633.

360. **T. Molinerii,** Balb. Brit. Mus. Cat. ; (INCARNATUM L.) CRIMSON CLOVER, 6—7, A. Cultivated ; stragglers sometimes found by roadsides, but they soon disappear.
1. Small pls. in waste ground and gravel-pits, Hayes ; scarce and casual ; '92–7. Sc.

363. **T. arvense,** L. (HARE'S-FOOT TREFOIL), 7—9, A. Sandy fields ; frequent.
1. Keston Common, '02., C.H.G. and W.H.G. ; '05, F.M.R.
2. Old gravel-pit, Dartford Heath, '04. R.H.C.
3. Between Hayes and W. Wickham, '05. F.M.R.

var. b.) **perpusillum,** DC. A procumbent maritime form.
1. Between Bexley and Joyden's Wood. Dod.

365. **T. striatum,** L. 6—7, A. Dry sandy places ; locally abt.
1. Hurst, near Bexley ; between Mottingham and Grove Park. Dod.
2. Isle of Grain, abundant. Jackson.
3. Darenth ; Hayes and Chislehurst Commons.
a. First record. 1790 : Blackheath.

366. **T. scabrum,** L. 5—7, A. Dry sandy places near the sea ; rare inland.
a. Only old and doubtful records.

367. **T. glomeratum,** L. 6, A. Gravelly places, S. of England ; rare.
1. Dartford Heath, '94. Dod.
a. All other records old and doubtful.

368. **T. suffocatum,** L. 6, A. Sandy seashores ; rare.
a. Records old and doubtful.

370. **T. hybridum,** L. 7—9, P. Introduced as a fodder pl. ; frequent on roadsides.

371. **T. repens,** L. (DUTCH or WHITE CLOVER), 5—9, P. Fls. self-sterile (Darwin) ; extremely common in all open places.

372. **T. fragiferum,** L. 7—8, P. Damp pastures ; very plentiful about the estuaries of the Thames and Medway.
1. Thames Bank, Greenhithe, '02. W.H.G.
2. Top of mudshoot Marshes, Belvedere, '03. R.H.C.

373. **T. resupinatum,** L. 7, A. Introduced ; casual.
1. Between Belvedere and Crossness, one pl., '94. Dod.
2. Gateway to Strawberry field nr. Park Gate, Lullingstone, '03. W.H.G.
3. One pl. by roadside, Shortlands, '94. Dr. Playfair.

375. **T. procumbens,** L. (Hop Trefoil), 6—8, A. Dry pastures and roadside banks ; very common.

376. **T. dubium,** Sibth. (minus, Sm. B.), 6—8, A. Dry places ; very common ; grown for fodder.

377. **T. filiforme,** L. 6—7, A. Dry places.
1. Growing amongst T. dubium, Hayes Common, '03. W.H.G.
2. Keston Common, '04. W.H.G. and Sc.
a. First record, 1724 : Blackheath.

378. **ANTHYLLIS vulneraria,** L. (Kidney Vetch), 6—8, P. Dry pastures ; very common on the chalk. Honey fls. with piston mechanism.
1. Upper ridges of chalk valleys about Down and Cudham, '06. W.H.G.
2. Eynsford Downs, '04. R.H.C.

var. **maritima,** Koch. Charlton Sandpit and E. Wickham brickfield, '07. J.F.B. & W.H.G. ; in both places on Thanet sand.

(102) **LOTUS,** L. Honey fls. with piston mechanism.

379. **L. corniculatus,** L. (Bird's-foot Trefoil), 5—9, P. Pastures, dry banks, etc. ; extremely common.

380. **L. tenuis,** W. and K. (under 379, B. & H.), 6—8, P. Meadows and moist banks ; not uncommon.
1. Plumstead Marshes, H. and M. ; Isle of Grain, M.
2. Marshes near Crossness. Dod.
3. Stone Marshes, '02. W.H.G.
4. Top of Mud shoot, Belvedere, '03. R.H.C.
a. First record, 1696 : About Greenwich and Greenhithe.

381. **L. uliginosus,** Schkuhr. (under 379, B.), 7—8, P. Damp shady places ; common.
1. Bog, Keston Common, '05. W.H.G.

382. **L. angustissimus,** L. 6—8, A. Grassy banks near the sea, S. of England ; very rare.
a. Isle of Grain, in some quantity, '75.

GALEGA officinalis, L. A cultivated garden plant.

var. b.) **albiflora.**
1. Gravel-pit, Hayes Common (a garden escape), '03. W.H.G.

386. **ASTRAGALUS glycyphyllos,** L. 6—8, P. Bushy places, chiefly on the chalk ; local.
a. Only old and doubtful records.

389. **ORNITHOPUS perpusillus,** L. 5—7, A. Dry sandy and gravelly places ; not uncommon.

1. Woolwich district, freq. ; Bostall Heath. Dod.
2. Gravel-pits, Dartford Heath, Abbey Wood, and Belvedere Park. R.H.C.
3. Chislehurst, Hayes.
4. V. abundant in Lower Tertiary gravel-pit, Hayes Common '07. W.H.G.

a. Old records from Greenwich, Blackheath, etc.

391. **HIPPOCREPIS comosa,** L. 5—8, P. Dry calcareous downs and banks ; very common. Honey fls. with piston mechanism.

1. Near Salt Box, Westerham Road, Cudham, '03. W.H.G.

392. **ONOBRYCHIS viciæfolia,** Scop. (SATIVA, Lam.), SAINFOIN, 6—8, P. Native or a relic of cultiv. ; one of the best fodder pls. on a chalk soil ; common.

(108) **VICIA,** L. (Tares and Vetches).

393. **V. hirsuta,** Gray (HAIRY TARE), 5—8, A. Cornfields, hedges ; frequent.

1. Belvedere Park, '03. R.H.C.

394. **V. tetrasperma,** Mœnch. (GEMELLA, Crantz), SMOOTH TARE, 6—9, A. Fields and hedges ; locally common.

1. Weedy roads, Beckenham, and Hayes, '97. Sc.

396. **V. cracca,** L (TUFTED VETCH), 6—8, P. Hedges ; very com.

398. **V. sylvatica,** L. 6—8, P. Woods and shady hedges ; v. local.

a. Doubtful record from Eltham, '66.

399. **V. sepium,** L. 6—8, P. Woods and hedges ; very common.

403. **V. sativa,** L. (COMMON VETCH), 5—6, A. Fields and waste places, but only as a relic of cultivation.

404. **V. angustifolia,** L. (under SATIVA, B. and Bab.), 5—7, A. Dry places ; very common.

1. With white fls., in a gravel-pit at Erith. Dod.

var. b.) **Bobartii,** Koch.

1. R.M. Repository, Woolwich. Dod.

405. **V. lathyroides,** L. 5—6, A. Dry gravelly places, ch. nr the sea ; very local.
1. Dartford Heath. H.
2. Near lake, Beckenham Park, '01. A. O. Hume.
a. Greenhithe, 1734 ; Stone chalk-pit, 1836.

VICIA FABA is the Broad Bean (cultivated).

(109) **LATHYRUS,** L. (Pea).

407. **L. aphaca,** L. 5—8, A. Colonist or casual ; gravelly fields ; r.
a. Very old and more than doubtful records.

408. **L. nissolia,** L. 6, P. Bushy grassy places ; rare and uncertain.
1. Warbank, Keston, '02. W.H.G.
2. E. side Ravensbourne Valley, Cudham, '03. W.H.G.
a. Strong colony at Orpington, '94. Spooner (Not since, Sc.)

411. **L. pratensis,** L. 6—8, P. Moist meadows and hedges ; very common.

412. **L. latifolius,** L. (EVERLASTING PEA). A garden stray. (L. ODORATA is the Sweet Pea).

417. **L. montanus,** Bernh. (MACRORRHIZUS, Wimm.), 5—7, P. Woods and thickets ; very common.

var. b.) **tenuifolius,** Reich. fil. Very common (Reeves).
1. Dartford Heath. Dod.
a. Near Plumstead in a wood, 1839.

NOTE.—Cultivated plants of this order include :—
1. Laburnum vulgare, the Laburnum.
2. Spartium junceum, the Spanish broom.
3. Wistaria chinensis, a shrub climbing on houses.
4. Robinia pseudacacia (False Acacia).
5. Colutea arborescens, with inflated bladder-pods.
6. Peas (Pisum sativum), Beans (Phaseolus), etc.

ALLIANCE X. GERANIALES.

N.O. 1. *GERANIACEÆ.*

(84) **GERANIUM,** L. (CRANESBILL). In Nos. 308, 312, 313, 314 the seed is thrown out of the carpel in dehiscence ; in 309, 310, 311, 315, and 316 the whole carpel is thrown off.

303. **G. sanguineum,** L. A rare stray.
1. Meadow between Down and Cudham, well est., '06. The nearest garden where it is grown is a mile distant ; so the pls. are presumably bird-sown. W.H.G.

304. **G. versicolor,** L. (STRIATUM, L.). Another stray.
1. Roadside bank, Richmore Hill, Halstead. H. D. Hewitt.

308. **G. pratense,** L. (MEADOW CRANESBILL), 6—8, P. Moist pastures and hedges ; scarce.
a. Dartford. Chevening.
b. Near Eltham, '36. ; near Blackheath, '55.

309. **G. pyrenaicum,** Burm. (PERENNE, Huds.), 6—7, P. Roadsides, etc. ; local.
1 Near Dartford. Dod.
2. Hayes Common gravel-pit, '06. W.H.G.
3. Below Knockmill, near Kingsdown. Britton.

310. **G. molle,** L. 4—8, A. Dry places, hedges. Very common.

311. **G. pusillum,** L. 6—9, A. Roadsides and waste places ; freq. Fls. protogynous.
1. Roadside near Keston Common, '02. W.H.G.
2. Chalk-pit near Birchwood Corner, '99. C.H.G.

312. **G. rotundifolium,** L. 6—7, A. Waste places ; rare.
1. Bexley, H.
2. Charlton, Kidbrook, Eltham, Plumstead. Dod.
a. Blackheath, '55 (extinct) ; Dartford (1st record, '36).

313. **G. dissectum,** L. 6—8, A. Dry waste places, esp. on the Chalk ; very common.
a. First record : Roadside, Erith, 1629.

314. **G. columbinum,** L. 6—7, A. Essentially a chalk pl. ; locally abundant ; protogynous.
1. Hayes and W. Wickham, '97. Sc.
2. Fields between Keston and Down, '06. W.H.G.

315. **G. lucidum,** L. 5—8, A. Walls and banks ; local.
1. Abbey Wood. H.
2. Roadside bank close to Hayes, '05. W.H.G.
3. Keston Common, opposite the old Windmill, '06. W.H.G.
4. On top of Hayes Gravel Pit, '07. W.H.G.

316. **G. Robertianum,** L. (HERB ROBERT), 5—9, A. Hedges ; abt.
a. A white var. Hayes, '96. Sc.

NOTE.—Our cultivated Geraniums are sp. of Pelargonium, principally from the Cape.

(85) **ERODIUM,** L.'Hér. ((STORKSBILL).

317. **E. cicutarium,** L'Hér. 6—9, A. Waste sandy ground ; not uncommon.
   1. Keston and Hayes Commons, but dwarf. W.H.G.
   2. Darenth to Longfield, '99. C.H.G.
   3. Gravel-pit, Belvedere Park, '03 ; ditto, Holly Hill, '05. R.H.C.
   4. Among the grass and in the turf, Avery Hill, '07. L.C.C.

318. **E. moschatum,** L'Hér. 6—7, A. Sandy waste places ; v. rare.
   a. One old and erroneous record.

N.O. 2. *TROPÆOLACEÆ.*

TROPÆOLUM majus is the garden Nasturtium, with sensitive petioles like Clematis.

T. aduncum, the Canary Creeper from Peru.

N.O. 3. *OXALIDACEÆ* (*under Geraniaceæ*, B. & H.).

320. **OXALIS acetosella,** L. (WOOD SORREL), 5, P. Damp shady woods (esp. Beech woods) and hedges ; common. Self-fertilization in cleistogamous buds occurs ; on dehiscence the fruits are shot not only out of the capsule, but out of their own arils. (The alien O. FLORABUNDA is established in Greenwich Park in the dell by the Ranger's House '01. A.D.W.).

N.O. 4. *LINACEÆ.*

298. **RADIOLA linoides,** Roth. (MILLEGRANA, Sm.), 7—8, A. Damp sandy places ; rather rare. A minute annual, not native, but sometimes found as an escape from cultivation.
   a. Old records from the Commons, but the pl. is so minute that it easily escapes notice.

(83) **LINUM,** L. (FLAX).

299. **L. catharticum,** L. 6—8, A. Dry pastures, chalk downs ; very common.

301. **L. angustifolium,** Huds. 7, A. sometimes P. Sandy and chalky places ; not uncommon.
   1. Railway embankment. W. of Northfleet. Dod. (Still there, '04. W.H.G.)
   2 Dartford Heath brickfield, '03. R.H.C.

302. **L. usitatissimum,** L. 7, A. Common Flax or Linseed ; only an escape from cultivation. The seeds are linseed, and flax is the bast fibres, which are 20–40 mm. long and as strong as iron.

N.O. 5. *RUTACEÆ.*

Ruta graveolens, L. (the GARDEN RUE) is cultivated.

Citrus aurantium, L., is the Orange.

N.O. 6. *SIMARUBACEÆ.*

Ailanthus glandulosa, a tree commonly planted in parks and gardens ; like the Elm, new shoots arise from the spreading roots and so propagate the pl.

N.O. 7. *POLYGALACEÆ.*

(58) **POLYGALA,** L. (MILKWORT).

185. **P. vulgaris,** L. (under VULGARIS, B. includes all the English forms), 6—9, P. Dry pastures and Chalk Downs ; abt.

186. **P. oxyptera,** Reich. 5—7, P. Dry, esp. chalky places ; v. local.
1. Chalk Downs, N. of Ryarsh. Rogers.
2. Nr. Wrotham (Mrs. Benson) ; Dartford Heath (H.).

187. **P. serpyllacea,** Weihe. 6—9, P. Damp gravelly heaths ; not uncommon.
1. Bostall Heath. Dod.
2. Meadow opposite the " Fox," Keston, '03. W.H.G.

188 **P. calcarea,** F. Sch. 5—7, P. Chalk Downs ; locally abt.
1. Upper Halling. Dod.
2. Plentiful on chalky hillsides about Down, '06. W.H.G.
3. Trottescliffe ; between Shoreham and Otford ; Morant's Court Hill. M.

a. First record, 1834 : Cuxton and Cobham.

190. **P. amara,** L.
Form a.) **austriaca,** Crantz, 6, P. Rough chalky banks; very rare.
1. Downs near Otford, '97. Bruce. (Magpie Bottom).
2. This rare and beautiful little plant should be looked for on the N. Downs above Shoreham and Otford, where it has been recorded. A new station was found in '06 between Maidstone and Lenham by Mr. Elgar, of the Maidstone Museum. W.H.G.

N.O. 8. *EUPHORBIACEÆ.*

(367) **EUPHORBIA,** L.

1359. **E. helioscopia,** L. (Sun Spurge), 6—9, A. Fields, gardens, and waste ground; very abundant.

1360. **E. platyphyllos,** L. 6—8, A. Fields; not common.
a. Dartford Heath, '77.

1366. **E. amygdaloides,** L. (Wood-Spurge), 3—4, P. Woods and thickets; very common.

1367. **E. esula,** L. 6—7, P. Woods; rare.
1. Hayes gravel-pit, '06. B. T. Lowne.
2. E. Wickham brickfield, '07. J.F.B. and W.H.G. (These form a new county record.)

1371. **E. peplus,** L. (Petty Spurge), 7—10, A. Cultivated and waste places, near houses; a common weed.

1372. **E. exigua,** L. (Dwarf Spurge), 6—8, A. Common in chalky arable fields.
1. Occurs yearly in the lower Warbank field, Keston Court Farm, '06. W.H.G.
2. Charlton Chalk-pit, '03. Poly B.C.

1373. **E. lathyrus,** L. (Caper Spurge), 6—7, B. Denizen in two or three woods; elsewhere a garden escape.
1. Wood near Bromley, strong colony, '95-6; only a few pls. in '97. Sc.
a. Plentiful in Randall Wood, Cobham. Lady Bligh.

(369) **MERCURIALIS,** L. (Dog's Mercury).

1375. **M. perennis,** L. 4—5, P. Damp shade pls.; very abundant. Wind pollinated.

1376. **M. annua,** L. 8—9, A. Seeds may be produced parthenogenetically (Kerner).

1. Very common in the Thames Valley. H. and M.
2. Common as a garden weed about Eynsford and Shoreham, '06. W.H.G.
3. Bexley Woods, '06. L.C.C.

NOTE.—Ricinus is the Castor-oil plant, a beautiful garden flower. The latex of many Euphorbias yield rubber.

N.O. 9. *CALLITRICHACEÆ* (*under Haloragеæ, B. & H.*).

(135) **CALLITRICHE,** L Aquatics, but land forms do occur.

637. **C. stagnalis,** Scop. 5—9, A. or P. Very common, especially on mud.

1. Crofton, near Orpington, '03. W.H.G.

639. **C. intermedia,** Hoff. (HAMULATA, Kuetz.), 4—9, A. or P. Plant very small ; common in ponds, lakes, and streams.

1. Crofton, '01. W H.G.

640. **C. obtusangula,** Le G. 5—9, A. or P. Ditches ; local.

1. Ditches near Greenhithe. H. Groves.
2. Stone Marshes. M.
3. Dartford Marshes, '03. W.H.G.

ALLIANCE XI. SAPINDALES.

N.O. 1. *BUXACEÆ* (*united to the Euphorbicaeæ, B. & H.*)

1374. **BUXUS sempervirens,** L. 4—6, Dry chalky hills of Surrey and Kent. Monœcious wind fls., only seldom visited by the hive bee for pollen. Not recorded anywhere in the district, either as wild or quasi-wild. It is plentiful, however, at Bexley in Kent and Box Hill in Surrey.

N.O. 2. *AQUIFOLIACEÆ* (*Ilicineæ, B. & H.*).

326. **ILEX aquifolium,** L. (HOLLY), 5—7. Hedges and woods ; very common. Fls. diœcious by reduction.

a. A var. with yellow berries occurs at Hayes. Sc.

N.O. 3. *CELASTRACEÆ.*

327. **EUONYMUS europæus,** L. (Spindle Tree), 5—6, Shrub. Hedges and woods ; freq. on sides of the chalk hills in Kent. Fls. tricœcious, pollinated by flies.

1. Boarer's Wood, '04 ; Vicarage Lane, Bexley, '03. R.H.C.

2 Lane between Bexley Heath and Bexley. Miss Pearce.

3 Greenwich Park and Avery Hill (in the hedges).

a First record, 1629 : " Chalkdale, near Dartford."

(Eunoymus japonica, with evergreen shiny leaves is a common front garden shrub. This exotic sp. is not often seen in flower, but it flowered freely at Worthing in the hot summer of 1906).

N.O. 4. *ACERACEÆ* (*under Sapindaceæ, B. & H.*)

(91) **ACER,** L. Black patches on the leaves of either sp. at the end of summer, due to fungus Rhytisma acerinum. In the autumn a sugary material, " honey-dew," appears on the leaves and affords nourishment to swarms of aphides. It is probable that the whole of this honey-dew is excreted by the leaves and not by the plant-lice as Grant Allen thought (note in Lane's edition of *White's Selbourne*, 1902), since exudation may take place on uninfested leaves in glasshouses (Nicholson's *Gardeners' Dictionary*).—See Lime.

330. **A. pseudoplatanus,** L. (Sycamore), 5—6. Planted everywhere ; some splendid ones are found on the W. side of Woolwich Common.

331. **A. campestre,** L. (Maple), 5—6. Woods and hedges ; com.

N.O. 5 *HIPPOCASTANACEÆ.*

AESCULUS hippocastanum, L., is the common White Horse Chestnut (Medit. to Himalayas).

Aesculus pavia, Poir. has red fls., and is much less freq. planted. Seedlings of the white-flowered form are common.

N.O. 6. *BALSAMINACEÆ* (*under Geraniaceæ*, B. & H.).

(87) **IMPATIENS,** L. Humble-bee fls.

323. **I. noli-tangere,** L. (Touch-me-not), 6—9, A. Damp mountain woods ; elsewhere, planted or garden escapes. Cleistogamous buds occur.

1. Both sides of Ravensbourne, near Bromley Hill, '97. Sc. ; '01, Dr. Playfair.

324. **I. biflora,** Walt. (fulva, Nutt.), 8, A. This pl. was introduced from N. Am. into the gardens at Albury nr. Guildford, whence the seeds have been transported by the waters of the Mole, etc., to other districts. First record in 1864 by Mr. Britten. In Am. this pl. is said by Snyder and Meehan to be visited by humming birds.

1. Bank of Ravensbourne, Southend, Catford, '05. W.H.G.

325. **I. parviflora,** DC. 7—9, A. From Russia, naturalised in parts of England.

1. Garden weed, Catford, '05–6. W.H.G.

I. Roylei, Walp.

1. Banks of Ravensbourne between Bromley Hill and Ravensbourne Rly. Stn., '04. W.H.G.

I. balsamina are the Garden Balsams, often double-flowered.

ALLIANCE XII. RHAMNALES.

N.O. 1. *RHAMNACEÆ.*

(90) **RHAMNUS.** L, In the illustrations to B. & H.'s " Flora " the thorns are put on the wrong plant.

328. **R. catharticus,** L. (Buckthorn), 5—7, thorny shrub, freq. on the Chalk. Fls. diœcious, sweet-scented, and much visited by insects ; short and long-styled forms (Darwin).

1. Bexley, Otford. Holmes.
2. Near Cliffe ; above Trottescliffe ; Shoreham. M.
3. Halling ; S. Darenth. Dod.
4. Between Dartford and Darenth Woods. Reeves.
5. Hedges between Keston, Down, and Cudham, '06. W.H.G.
7. Sev. very large bushes by Farthing Street, Holwood, c. '92. A.D.W.

329. **R. frangula,** L. 5—6, shrub, not thorny ; rare.
1. Sidcup. Holmes.
2. Farnborough Common, '01. W.H.G.
a. One pl. is said to grow on Hayes Common.
b. Charlton Wood, Erith ; Hayes Common (1793).
c. First record, 1746 : " In the long bog at Chislehurst."

N.O. 2. *VITACEÆ.*

Vitis vinifera, L. is the Grape Vine.

Ampelopsis hederacea and **Veitchii** (with suckers on the tendrils), the Virginia Creepers.

ALLIANCE XIII. MALVALES.

N.O. 1. *TILIACEÆ.*

(81) **TILIA,** L. 6—8, D. Trees. Fls. sweet-scented with honey, visited by many insects (bees), but though the trees flower freely, seeds are v. rarely ripened in this country. Leaves in the autumn covered with Honey dew (see Maple). The indigenous form of N. Europe is TILIA CORDATA, Miller (PARVIFOLIA, Ehrh., v. rare), but the form gen. planted is one with much larger leaves, T. PLATYPHYLLOS, L. (GRANDIFOLIA, Ehrh.). T. EUROPÆA, L. (INTERMEDIA, DC. ; VULGARIS, Heyne) is also v. commonly planted. The sp. are ill-defined, and it is often hard to distinguish between them. According to Sc., '97, a single specimen of T. parvifolia occurred at the top of Homefield Road, Bromley (planted).

N.O. 2. *MALVACEÆ.*

(78) **ALTHÆA,** L.

285. **A. officinalis,** L. (MARSH MALLOW), 7—9, P. A beautiful marsh plant decreasing with drainage.
1. By river between Strood and Cuxton. H.
a. Greenhithe, Gravesend, and Erith, 1st records, 1597

286. **A. hirsuta,** L. 6—8, A. Native or denizen ; very rare.
a. Cobham. A.D.W.
b. First record, 1798 : Cobham, in Kent.

A. ROSEA, Cav., are the cultivated Holly-hocks.

(80) **MALVA,** L. (Mallow).

289. **M. moschata,** L. 7—8, P. Gravelly places.
1. Common about Ravensbourne Rly. Stn., Shortlands, '04. W.H.G.
2. Pure white form, Maplescombe Valley, near Eynsford, '04. W.H.G.
3. The most abt. sp. nr. Bromley, but diminishing in '97. Sc.
4. Gravel-pit, Hayes; gravel-pit, W. Wickham, '05. F.M.R.

290. **M. sylvestris,** L. (Common Mallow), 6—9, P. Roadsides and waste places; very common.

291. **M. rotundifolia,** L. (Dwarf Mallow), 6—9, P. Waste places; very common.

293. **M. pusilla,** Sm. A. Alien.
1. One very large pl. on dredged mud at Crossness, '92; in two or three places about Plumstead; Tripcock Ness. Dod.

ALLIANCE XIV. PARIETALES.

N.O. 1. *GUTTIFERÆ* (*Hypericineæ, B. & H.*)

(77) **HYPERICUM,** L. (St. John's Wort). Pollen fls. only; no honey secreted.

271. **H. Androsæmum,** L. 7—8, P. Woods and shady hedges; local except in the W. of England; cultivated.
a. Records old or doubtful.

274. **H. calycinum,** L. 7—9, P. A cultivated sp. naturalised here and there.
a. No recent notices, but both 271 and 274 are found in Greenwich Park.

275. **H. perforatum,** L. 7—8, P. Dry copses, roadsides, etc.; common and abundant. The most com. form in the district is var. b). **angustifolium** the type being somewhat rare.

277. **H. quadratum,** L. 7—9, P. Wet places; common.

279. **H. humifusum,** L. 7—9, P. Sandy places, heaths; common·

281. **H. pulchrum,** L. 6—9, P. Dry heaths, copses; common on the sand, rare on the chalk.
1. Frequent in woods, Beckenham and Hayes, '97. Sc.
2 Belvedere Park, '03. R.H.C.

282. **H. hirsutum,** L. 7—8, P. Woods and thickets; common esp. on the chalk.
a. First record, 1597 : Southfleet.

283 **H. montanum,** L. 7—8, P. Bushy places on the chalk; rare.
1. Chalk-pit nr. Barnesfield, towards Dartford. Dod.
a. Lewisham, 1666 (1st record); Charlton Woods, 1746.

284. **H. elodes,** L. 7—8, P. Small creeping bog plant; v. local.
1. Chislehurst Common. Dod.
2. Chislehurst and Keston, '96. Sc.
3. Keston Common, '04. F.M.R. In boggy valley below the mill, '00–'06. W.H.G.

N.O. 2. *TAMARICACEÆ.*

Tamarix gallica, L. (anglica, Webb) is often planted in gardens and on seaside promenades on the S. and E. coasts of England.

N.O. 3. *CISTACEÆ.*

170. **HELIANTHEMUM chamæcistus,** Mill (vulgare, Gaertn.), Rock Rose, 6—9, P. Chalk Downs; v. com. H. and M. says: "Not noted for District 1"; but it is plentiful on chalk banks in portions of W. Wickham, Hayes, and Keston parishes.
a. First record, 1597 : "Chalk banks about Gravesend."

N.O. 4. *VIOLACEÆ.*

(57) **VIOLA,** L. (Violet). Chiefly bee fls.; the open entomophilous fls. of many sp. (canina, hirta, odorata, sylvestris) are gen. sterile, the cleistogamous autumn buds fertile and self-fertilised. Hybrids frequent and fertile.

172. **V. palustris,** L. 4—6, P. Wet places; local.
a. Keston Common, about '83. Dr. Playfair.
b. First record, 1716; nr. E. Wickham.

173. **V. odorata,** L. (SWEET VIOLET), 3—5, P. Banks, woods, hedges ; common, but somewhat rare in the chalk districts.

1. Lane near Keston Church, '05. W.H.G.
2. Farm Lane, opp. pond, Down Village, '06. W.H.G.
3. Near High Elms, Farnborough, '03. W.H.G.

form **alba,** Lange.

1. Roadsides close to Maplescombe Valley Farm, near Eynesford, '07. W.H.G.
2. Gravel-pit, Hayes, '02 ; near Cudham Church, '01 ; roadsides near Knockholt Rly. Stn., '01. W.H.G.
3. In fir-wood, Keston. A.D.W.
3. Betw. Timberden Bottom and Shoreham Castle. Britton.

V. odorata x hirta (PERMIXTA, Jord.).

1. Near Keston. Britton teste Beeby.
2. Very plentiful in chalk meadows between Keston and Down, '06. W.H.G.

174. **V. hirta,** L. 4, P. Dry downs and banks ; common on the chalk. Self-fertilisation in cleistogamous buds occurs ; a variable sp. (Britton, "*Journ. of Bot.*," '04), due to the fact that cross-pollination does little to check the tendency to variation.

a. First record, 1666 : Charlton Wood.

V. calcarea, Greg. (under HIRTA, B. & H. Bab.). Dry chalk downs ; rare.

1. Keston. Britton.

175. **V. sylvestris,** Lam. (under CANINA, B. ; and SYLVATICA, Fries, H.), 2—4, P. Woods, etc. ; common on the chalk.

1. On chalk, Lullingstone, '03. A. O. Hume.

V. sylvestris x Riviniana.

1. Shady banks, Lullingstone, '03. A. O. Hume.
2. Wood nr. Park House, Eynsford. Britton.

176. **V. Riviniana,** Reich. (under CANINA, B. ; and SYLVESTRIS, H.), DOG VIOLET, 4—5, P. Woods, heaths, hedges ; common everywhere.

178. **V. canina,** L. (ERICETORUM, Schr.), 4—5, P. Sandy and peaty places ; rather rare.

1. Between Hayes Common and Keston Mark, roadsides, '04. W.H.G.
2. Dartford Heath. Dod.
3. Belvedere Park, '03. R.H.C.

181. **V. tricolor,** L. (Pansy), 5—9, A. or P. Fields, banks; common except in the chalk districts. Another variable sp., Shakespeare's "Nodding Violet."
1. A large flowered form in an arable field at Leaves Green, Keston, '03. W.H.G.
a. First record, 1763: Blackheath.

var. b.) **arvensis,** Murr. (Field Pansy), 4—9, A. Fields, roadsides; common.
1. Gravel-pit, Dartford Heath, '04. R.H.C.

V. cornuta, L. An alien.
1. Quasi-wild on grave mounds, Cudham Churchyard, '06. W.H.G.

N.O. 5. *PASSIFLORACEÆ.*

Passiflora cærulea, the Passion Flower, is a climbing plant often trained against the house in London gardens, where it flowers freely and ripens its fruit.

N.O. 6. *BEGONIACEÆ.*

Begonias are well-known greenhouse and garden pls.

ALLIANCE XV. MYRTIFLORÆ.

N.O. 1. *THYMELÆCACEÆ.*

(363) **DAPHNE,** L.

1353. **D. mezereum,** L. 2—3, D. Shrub. Once native in woods but now doubtfully so; extremely rare.
1. Brewer's Wood, Cobham. Lady Bligh.
2. Greenwich Park and Avery Hill (planted).

1354. **D. laureola,** L. 2—4, Shrub. Woods and thickets; common on the chalk
1. Chalk Downs, Shoreham. Holmes.
2. High Elms, H.; Wrotham, M.
3. Meopham, Cobham, Halling. Dod.
4. Coppices, Whitefoot Lane, Southend, '03. W.H.G.
5. Wood above Otford, '03. A. O. Hume.
6. Meenfield Wood, W. of Shoreham, '04. W.H.G.
7. Meadows and coppices, top of Western side of Maplescombe Valley, '07. W.H.G.

N.O. 2. *ELÆAGNACEÆ. Diœcious wind pollinated fls.*

1355. **HIPPOPHÆ rhamnoides,** L. (Sea Buckthorn) is a maritime plant found in Kent, but not in our district.

Elæagnus, a pl. with peculiar mealy leaves is grown in shrubberies (Avery Hill).

N.O. 3. *LYTHRACEÆ.*

643. **PEPLIS portula,** L. 7—8, A. Weak herbs growing in damp places; fls. very minute and often without petals. No recent records.

a. Keston, Chislehurst, Joyden's Wood.

(137) **LYTHRUM,** L.

644. **L. salicaria,** L. (Purple Loosestrife), 6—8, P. In wet places; very common in its habitat. Fls. heterostyled, trimorphic (see Darwin: "Forms of Flowers.").

1. Banks of Ravensbourne, Southend, '01. W.H.G.
2. Ladies' Golf Ground, Ravensbourne, '02. W.H.G.
3. Pl. in a ditch at Keston and near Orpington. A.D.W.

a. First record, 1629: Marsh at Erith.

645. **L. hyssopifolia,** L. 6—10, A. Damp ground; extr. rare. Fls. homomorphic (Vaucher), which Darwin doubts.

a. Croyden Irrigation Fields, between S. Norwood and Elmer's End, '75. Pebble.

N.O. 4. *MYRTACEÆ.*

Myrtus communis, L. (The Myrtle) from the Medit. is cultiv.

N.O. 5. *ŒNOTHERACEÆ* (*Onagraceæ, B. & H.*)

(138) **EPILOBIUM,** L. (Willow-herb). Hybrids freq.; in the London Cat. Marshall reports 33 hybrids.

646. **E. angustifolium,** L. 7—8, P. Damp shady places; freq.

1. Hayes Common, '06; Wood at Down, '04; Old lime-kiln, Otford, '04. W.H.G.
2. Crown Woods, Eltham; Pinewoods, Abbey Wood, '03. R.H.C.
3. Gravel-pit near W. Wickham, '05. F.M.R.
4. Was abt. in woods about Bromley in '92, but has much diminished of late years, '97. Sc.
5. Shrewsbury Lane, '06. F. Mockeridge.

a. First record, 1666: Greenwich, on ballast.

648. **E. parviflorum,** Schr. 6—9, P. Wet places and waste ground ; very common.

E. parviflorum x roseum, and **E. parv. x** (PARV. x ROSEUM).

1. Damp ground, Woolwich Arsenal, growing tog. Dod.

649. **E. montanum,** L. 5—7, P. Hedgebanks and waste ground ; extremely common.

E. montanum x obscurum.

1. Woolwich Arsenal. Dod.

650. **E. lanceolatum,** S. and M. 6—9, P. Hedgebanks and open copses on a sandy soil ; rare and local.

1. Between Chislehurst and Bickley, '87. Bennett.
2. Rubbish heaps, Woolwich Ars., well established. Dod.
3. Crofton, near Orpington, '02. W.H.G.

E. lanceolatum x montanum, E. **lanc. x obscurum,** and **E. lanc. x roseum.**

1. Woolwich Arsenal. M. and Dod.

651. **E. roseum,** Schr. 6—9, P. Wet and waste ground, gardens ; locally abundant.

1. Woolwich Ars. ; wood near Northumberland Heath. Dod.

652. **E. tetragonum,** L. (ADNATUM, Gris.), 7—8, P. Damp places ; frequent.

1. Woolwich Arsenal ; near Mottingham ; Charlton Chalk-pit ; Eltham ; Welling ; E.Wickham ; Upper Halling. Dod.
2. Chislehurst ; Grain ; near Cliffe. M.
3. Greenhithe, '01. W.H.G.
4. W. Wickham, '05. F.M.R.

a. First record, 1864 : Shooter's Hill.

653. **E. obscurum,** Schr. (under TETRAGONUM, B. & H.), 6—9, P. Wet places ; very common.

E. obscurum x parviflorum.

1. Woolwich Arsenal. M. and Dod.

655. **E. palustre,** L. 7—8, P. Bogs.

1. Keston Common, '04 W.H.G.

659. **ŒNOTHERA biennis,** L. (Evening Primrose), 7—9, A. or B. An Am. alien naturalised on railway banks and waste ground. Protandrous moth fls. with concealed honey.
1. Casual, Woolwich Arsenal. Dod.
2. Roadsides and railway banks, Shortlands, '02. W.H.G.
3. Dartford Heath brickfield, '03. R.H.C.
4. Swanley Junction. M.
5. E. Wickham brickfield, '07. J.F.B. and W.H.G.
a. Waste ground near Lower Sydenham, '63. Britten, in " Journ. of Bot."
b. First record, 1836: Shooter's Hill and Lewisham Chalk-pit.

661. **CIRCÆA lutetiana,** L. (Enchanter's Nightshade), 6—8, P. Frequent in moist woods and shady lanes.

Note.—To this order also belong the Fuchsia and Clarkia.

N.O. 6. *HALORAGIDACEÆ* (*Haloragea B. & H.*).

(143) **MYRIOPHYLLUM,** L.

633. **M. verticillatum,** L. 6—8, P. aquatic. Local.
1. Stream near Faversham. Dod.
2. Long Pond, Eltham, '07. L.C.C.
3. Dartford Marshes, 01. W.H.G.
a. Marshes between Greenwich and Woolwich, 1836.

var. b.) **pectinatum,** D.C.
1. Cooling Marshes; near P. Victoria. M.

634. **M. spicatum,** L. 7—9, P. aquatic. Freq.
1. Higham Marshes. Dod.
a. As 633.

[B. & H. include in the Haloragea: (135) **Callitriche,** see under Callitrichaceæ; (133) **Hippuris,** see next order.]

N.O. 7. *HIPPURIDACEÆ.*

632. **HIPPURIS vulgaris,** L. (Mare's-tail), 6—7, P. aquatic; freq.
1. Northfleet meadows. Dod. '03. This and other aquatic pls. have now disappeared, through the draining of the ditches by deep pumping wells. W.H.G.

ALLIANCE XVI. UMBELLIFLORÆ.

N.O. 1. *ARALIACEÆ.*

733. **HEDERA helix,** L. (Ivy), 10—11, climbing evergreen. Rocks, old walls, hedges, trees ; common everywhere. The last, or almost the last, of British pls. to flower ; the fls. have honey, but are pollinated chiefly by flies; the fruit remains dormant during the winter and ripens the following spring; the flowering shoots project from the wall and bear ovate leaves.

Fatsia japonica, the so-called Aralia, with palm-like leaves is a favourite pot-plant ; sold by hawkers as the castor-oil plant. The true castor-oil plant (Ricinus) is a herbaceous annual (Euphorbiaceæ), and makes a fine show in the garden.

N.O. 2. *UMBELLIFERAÆ.*

All secrete honey, which with one or two exceptions is accessible to all insects, even to those with the shortest tongues.

664. **HYDROCOTYLE vulgaris,** L. 6—7, P. A bog plant ; common in its habitat, but scarce on the chalk.
1. Keston Common, '06, W.H.G. ; '07, L.C.C.

665. **ERYNGIUM maritimum,** L. (Sea Holly), 7—8, P. Maritime pl. frequent in its habitat. One of the few Umbelliferæ with concealed honey.
1. Isle of Grain, abundant. Jackson.

668. **SANICULA europæa,** L. (Wood Sanicle), 6—7, P. Woods and thickets ; common. Bi-sex. and *m.* fls. in the same umbel.

670. **CONIUM maculatum,** L. (Hemlock), 6—7, B. Hedges and waste ground ; local.
1. Meadows between Keston and Down, '06. W.H.G.
2. Wood, W. Wickham, '92. Playfair.
3. Gate's Green, '97. Sc.
4. Gravel-pit, Holly Hill, '04. R.H.C.

671. **SMYRNIUM olusatrum,** L. 4—6, B. Waste ground, especially near the sea ; frequent in its habitat.
1. Roads E. of Dartford, '02. W.H.G.
2. Charlton pit, '03. Poly B.C.

(150) **BUPLEURUM,** L. (Hare's Ear).

672. **B. rotundifolium,** L. 7, A. Chalky arable fields ; local.
1. Swanley, H.
2. Eynesford, '06. L.C.C.
a. Around Lewisham, 1762.
b. Many old records for District 2, H. and M.

674. **B. tenuissimum,** L. 8—9, A. Wet places near the sea and tidal waters ; frequent in its habitat.
1. Cliffe Marshes. H.
2. Isle of Grain. Jackson.

(152) **APIUM,** L.

677. **A. graveolens,** L. (Wild Celery), 6—8, P. Common in wet places near the sea and tidal rivers ; rare and generally an escape inland.
1. Swanscombe Marshes, '01. W.H.G.
2. E. Wickham, brickfield, '07. J.F.B. and W.H.G.
a. Casual near rubbish heap, Beckenham, '97. Sc.

678. **A. nodiflorum,** Reich. 7—8, P. Banks of ditches and brooks ; very common.

var. c.) **ocreatum,** Bab. Muddy places, perhaps not infreq.
1. Keston. Jackson

679. **A. inundatum,** Reich. 6—7, P. Very wet places, rather rare.
1. Chislehurst Common. Dod, Sc.
2. Pond, Keston Com., '04. W.H.G.
a. Marshes between Greenwich and Woolwich, 1836.

(155) **PETROSELINUM,** Hill (under Carum, Lond. Cat.).

683. **P. sativum,** Hoff. (C. petroselinum, B. & H.), Parsley, 6—8, B. Alien, more or less naturalised in dry waste places.
1. Farnborough Common, '02. W.H.G.
2. Hayes gravel-pit, an escape, '96. Sc.
a. Chalk pits, Northfleet, '77.

684. **P. segetum,** Koch. (C. segetum, B. & H.), 7—9, A. or B. Damp calcareous fields, chiefly near the sea ; local inland.
1. In fields by Orpington, c. '92. A.D.W.
2. Lane, N. Cray, abundant, '05. R.H.C.
a. First record, 1629 : near Cliffe.

687. **SISON amomum,** L. 8, B. Damp chalky ground ; very com.

(157) **SIUM,** L.

689. **S. latifolium,** L. 7—8, P. Ditches and rivers ; very local and decreasing.
a. Records old and extremely doubtful.
b. First record, 1700 : " In ditches between Redrif (i.e. Rotherhithe) and Deptford."

690. **S. erectum,** Huds. 7—9, P. Ditches ; common in its habitat.
1. Dartford Marshes, '01. W.H.G.
a. First record, 1633 : " Between Redriffe and Deptford."

691. **ÆGOPODIUM podagraria,** L. (Goutweed), 6—7, P. Damp places, gardens, roadsides near buildings ; common.
The central fls. in the umbels of the second order are male.

(159) **PIMPINELLA,** L.

692. **P. saxifraga,** L. 7—9, P. Dry pastures, banks, and roadsides ; very common.

693. **P. major,** Huds. (magna, L.), 7—8, P. Shady hills ; freq. not on the chalk, but on the Gault and Folkestone Beds in the Weald ; probably more plentiful in Kent than in any other county.
1. Borough Green, '05. W.H.G.
2. Seal, '02. B. T. Lowne.

var. b.) **dissecta,** Br.
1. Roadside, N. of Ightham, '05. W.H.G.

P. anisum, L. (Mediterranean) yields aniseed.

CARUM, L.

694. **C. majus,** *comb. nov.*, Brit. Mus. Cat. (C. flexuosum, Fr. ; Conopodium denudatum, Koch,), Pignut, 5—6, P. Woods and pastures ; very common.

685. **C. carvi,** L. (Caraway), 6, B. Casual ; meadows and pastures ; rare.
1. Gravel-pit, Hayes, '06. W.H.G.

695. **MYRRHIS odorata,** Scop. (Sweet Cicely), 5—6, P. Pastures in hilly districts ; a sweet-scented N. of England plant. Fls. complete or *m.*
a. Colonies at Hayes, '94, and Bromley, '97 ; but both were soon destroyed. Sc.

CHÆROPHYLLUM, L. (Chervil), including Anthriscus Bernh.

696. **C. temulum,** L. (Rough Chervil), 6—7, P. Hedges and waste places ; very common.

698. **C. anthriscus,** Lam. (Anthriscus vulgaris, Pers.), 5—6, A. Sandy waste places, especially near the sea ; not common. Very few insect visitors ; flowers generally self-fertilised. As we approach the sea this sp. takes the place of the com. inland form, C. sylvestre.
1. Plumstead Marshes. Reeves.
2. Common about Woolwich ; plentiful at Crossness. Dod.
3. Dartford Gravel-pit. Dod.
4. Plentiful on roadsides and railwaybanks near Bellingham Rly. Stn., '06. W.H.G.
5. Strong colony, S.E. Railway bank, Bromley, '97. Sc.
6. Long Lane, Bexley Heath, '04. R.H.C.

699. **C. sylvestre,** L. (Anthriscus sylvestris, Hoff.), Wild Chervil, 4—6, P. Hedges and banks ; extremely common. Many insect visitors.

697. **SCANDIX pecten-veneris,** L. (Shepherd's Needle), 6—9, A. Colonist ; fields and cultivated ground ; common.
1. Casual in cultivated ground, Hayes, '92 ; W. Wickham, '94. Sc.

702. **FŒNICULUM vulgare,** Mill. (officinale, All.), Fennel, 7—8, P. Rocks and walls near the sea ; inland, a garden escape. It is often found in the neighbourhood of old castles, where it was once cultivated for the kitchen.
1. Railway bank between Bickley and Mary Cray. Playfair.
2. Hayes gravel-pit, '07. W.H.G.
3. Brickfield near Dartford Heath, '03. R.H.C.
4. Crook Log, Bexley Heath, '05. A. H. Nutting.
5. Greenwich Park.

F. giganteum, cultivated at Avery Hill ; enclosure of Observatory Hill, Greenwich Park.

(168) **ŒNANTHE,** L. (Water Dropwort).

704. **O. fistulosa,** L. 7—9, P. Marshy places ; not very common.
1. Plumstead Marshes ; Northfleet. Dod.
2. Hayes Ford, one plant, '97. Sc.

707. **O. Lachenalii,** Gmel. (under pimpinelloides, L., B.), 7—9, P. Marshes near the sea. ; locally abundant.
1. Near Shoremead Fort ; near Northfleet Stn. Dod.
a Plumstead Marshes. Reeves.

708. **O. crocata,** L, 7, P. Wet places ; extremely common.
a. First record, 1666 : In many places on the Thames side.

709. **O. aquatica,** Poir. (PHELLANDRIUM, Lam.), 7—9, P. Ponds and marshes, Weald especially. Locally plentiful.
1. Ponds near Lee and E. of Eltham ; near Higham. Dod.
a. Ditches near Erith, '77.

711. **ÆTHUSA cynapium,** L. (FOOL'S PARSLEY), 7—8, A. Waste and cultivated ground, especially gardens ; common. Poisonous.

713. **SILAUS flavescens,** Bernh. (PRATENSIS, Bess.), 7—9, P. Damp meadows and pastures ; frequent.
1 Stone Marshes ; The Scrubs, Bromley Common, '02. W.H.G.

717. **ANGELICA sylvestris,** L. 7—8, P. Wet and especially woody places. Common.
1. Boarer's Wood, Abbey Wood, '04. R.H.C.
2. Near Eden Park Stn., '05. F.M.R.

722. **PASTINACA sativa,** L. (PEUCEDANUM, B. & H.), WILD PARSNIP, 7, B. Hedges on the chalk ; very common. This is the cultivated parsnip ; *m.* fls, are mixed with the complete.

723. **HERACLEUM spondylium,** L. (HOGWEED), 7, P. Abundant everywhere. 118 species of insects have been recorded as visitors to this fl.—a possible record.

725. **CORIANDRUM sativum,** L. 6, A. A Mediterranean casual, scarcely naturalised.
1. One or two places in Woolwich Arsenal, '88. Dod.
2. Brickfield, Dartford Heath, '03. R.H.C.

726. **DAUCUS carota,** L. (WILD CARROT), 6—8, P. Dry pastures, banks, waste and cultivated ground ; very common. A few fls. in the centre generally red, an ancestral trait (Darwin), but red is not a primitive colour in the UMBELLIFERÆ (Lubbock).

Form **rubra,** Griffin, a form in which every fl. is dusky red.
1. On bank of Ravensbourne Valley below the Westerham Road, near Leaves Green, '02. W.H.G.

729. **CAUCALIS daucoides,** L, A. Colonist ? Chalky fields ; very rare.
1. Cobham. Farre teste H.
a. Old records from Dartford, Northfleet and Gravesend

TORILIS, Adans (under CAUCALIS, B. & H.).

730. **T. arvensis,** Link (INFESTA, Spreng.), 7—8, A. Colonist ; waste and cultivated ground ; rare in the district.
1. Fields about Lee. Dod.
a. Charlton Chalk-pit, 1836 ; chalky cornfields near Sutton, '77.

731 **T. anthriscus,** Bern. (HEDGE PARSLEY), 7—8, A Hedges, etc. ; very common.

732. **T. nodosa,** Græt. 5—7, A. Sunny grassy banks and waste places ; frequent.
1. Swanscombe, '02. W.H.G.
a. First record, 1629 : Chalkedale, near Dartford.

NOTE.—Ferula communis, L., is often cultivated in shrubberies under the name of giant-fennel ; other sp. yield the drug Asafœtida.

N.O. 3 *CORNACEÆ.*

735. **CORNUS sanguinea,** L. (DOGWOOD), 6—7, Shrub ; woods and hedges ; extremely common.

NOTE.—Aucuba japonica, Thunb. (The Japanese Laurel) is a very common park and garden evergreen shrub ; it is dicœcious, and when not in fl., or when the leaves are variegated, it is easily mistaken for the Cherry Laurel.

Class II.—SYMPETALÆ.

(Metachlamydeæ, Gamopetalæ.)

Fls. of a higher order, and generally adapted to pollination by long-tongued insects. The groups form two main series :—

SERIES I. **PENTACYCLIDÆ** (Warming), flowers generally pentamerous, carpels not reduced (ISOCARPOUS).

ALLIANCE XVII. ERICALES.

N.O. 1. *PYROLACEÆ* (*under Ericaceæ, B. and H.*), *humus pls., with or without Chlorophyll.*

(263) **PYROLA,** L (WINTER GREEN), low herbs sometimes rather woody.

1048 **P. rotundifolia,** L. 8, P. Woods, ch. on the chalk ; rare and local.

a. Joyden's Wood, Bexley. Beeby.

(265) **MONOTROPA,** L. (N.O. MONOTROPEÆ, B. & H.).

1053. **M. hypopitys,** L. (HYPOPITYS MONOTROPA, Scop.), 7—8, P A yellowish saprophyte with mychorrhiza ; woods (fir, birch and beech), mostly on the chalk ; rare. Central fl. in fives ; rest usually in fours.

1. Beech coppice on Skid Hill leading to Chelsham, but on the Kent side of the county boundary, '04. W.H.G.
2. High Elms, '91 Kennard.
3. Wood at High Elms ; beneath beech trees at two stations at Keston, c. '92. A.D.W.

N.O. 2. *ERICACEÆ.*

SUB-ORDER 1. **VACCINIOIDEÆ** (VACCINIACEÆ, B. & H.), with inferior ovary.

1032. **VACCINIUM myrtillus,** L. (BILBERRY), 5, Shrub ; green angular leaves, deciduous stems and blue berries. Stony woods and sandy heaths ; rare in the district.

1. W. side of Keston Common above the bog, '06. W.H.G.
2. Abt. in the private portions of Holwood Park. W.H.G.

a. Darenth Wood (Reeves) ; Joyden's Wood, '77.

SUB-ORDER 2. **ERICOIDEÆ** (ERICACEÆ, B. & H.).

1038. **CALLUNA vulgaris,** Hull. (ERICA, DC.), HEATHER, 6—8, Shrub. Dry heaths and commons ; very common.

1. Hayes Common and Keston, where var. b.) INCANA, (with ashy grey leaves) also occurs. W.H.G.
2. White flowered form on Dartford Heath. Dod.

a. First record, 1629 : Dartford Heath.

(259) **ERICA,** L. (HEATH), 7—8, Shrubs. Moorland pls. ; the root stock of E. scoparia (S. France) known as Bruyere furnishes " briar "-wood pipes.

1040. **E. tetralix,** L. Moist sandy heaths and commons. Bee-fls.

1. Hayes and Keston Commons, '06. W.H.G.
2. Paul's Cray Common, '06., W.H.G. ; '04, R.H.C.
3. Common in Holwood Park. A.D.W.

a. Blackheath, 1836.

1042. **E. cinerea,** L. Dry sandy ground ; frequent near London.
1. Hayes, Keston, and Paul's Cray Commons, '04. C.H.G.
2. White flowered form on side of boggy valley, Keston Common, '00. W.H.G.

1044. **E. mediterranea,** L. (CARNEA, L.), 4. Native only in the W. of Ireland ; one butterfly in Germany, Vanessa cardui, visits it exclusively.
1. Abt. as a border in Greenwich Park, '06. J.F.B.

SUB-ORDER 3. **ARBUTOIDEÆ.**

1034. **ARBUTUS unedo,** L. (WILD STRAWBERRY TREE) ; only wild in Kilkenny ; commonly planted (Avery Hill).

SUB-ORDER 4. **RHODODENDROIDEÆ,** all foreign.

RHODODENDRON, AZALEA, and KALMIA (Greenwich Park and Avery Hill).

ALLIANCE XVIII. PRIMULALES.

N.O. 1. *PRIMULACEÆ.*

1060. **HOTTONIA palustris,** L. (WATER VIOLET), 5—6, P. Floating water pls. with submerged dissected leaves ; fls. dimorphic, seeds ripen under water.
1. Plentiful in two ponds opp. Coldharbour Farm, between Chislehurst and Mottingham. Dod. '07. J.F.B. & C.H.G.
2. Pond E. of Chislehurst. Dod.
3. Bromley, '97. Miss Harrison teste Sc.
4. Greenwich Park.

(269) **PRIMULA,** L. (PRIMROSES). Fls. dimorphic, heterostyled, adapted to bees or butterflies ; hybrids frequent.

1061. **P. vulgaris,** Huds. (ACAULIS, L. ; under VERIS, B.), 3—5, P. Moist meadows, hedges and woods ; very common. Rarely visited by bees of any kind ; fertilised by night flying moths.

P. acaulis x veris (THE BASTARD OXLIP).
1. Vale of Cudham, '03 ; Crofton Woods, '04. W.H.G.

1062. **P. veris,** L. (Cowslip), 4—5, P. Meadows and pastures; common on chalk and clay, not on sand. Visited by bees by day, and moths by night.

1. Still plentiful in chalky meadows about Down and Cudham, but decreasing every year through the ravages of hawkers, who dig them up for sale. W.H.G.
2. In fields by Holwood Farm. A.D.W.
3. Near Swanley, '06. L.C.C.
4. Fields at Avery Hill, '07. L.C.C

1063. **P. elatior,** Jacq. (Oxlip), 4—5, P. Woods and meadows in the E. Counties (Essex), confined to the boulder-clay; not noted in Kent.

(271) **LYSIMACHIA,** L.

1068. **L. vulgaris,** L. P. Sides of rivers and pools; rare in the district. The bee, Macropis labiata, visits this fl. exclusively.

1. Stream above Blendon Park. Dod.
2. Hayes, '94; Beckenham, '97. Sc.
3. By Hollydale pond. A.D.W.

a. Large group in wood at Crofton, '00, but had been destroyed in '06. W.H.G.
b. Meadow between Greenwich and Woolwich, 1836.
c. First record, 1777 : Swampy ground near Stone Bridge.

1071. **L. nummularia,** L. (Creeping Jenny), 6—7, P. Damp places; frequent especially in the Weald. Said never to set seeds in this country; commonly cultivated.

1 Sidcup, Bexley (Holmes); Joyden's Wood (Jackson).
2. Grove Park; meadows above Darenth; wooded slopes above Trottescliffe. Dod.
3. Eynsford; near Chelsfield. H.
4. Crofton Woods, '05. W.H.G.
5. Hills and Holes, Bexley Heath, '03. R.H.C.

a. Deptford; Hanging Wood, Charlton, 1793; Shooter's Hill, 1836.

1072. **L. nemorum,** L. 6—8, P. Damp shady woods and banks; common.

1074. **GLAUX maritima,** L. 6—8, P. Muddy shores and salt marshes, banks of tidal rivers; freq. in Thames estuary. Fls. heterostyled.

(274) **ANAGALLIS,** L. (Pimpernel).

1075. **A. arvensis,** L. 6—7, A. Cultivated fields and waste ground ; very common. Fls. close in the afternoon and all day in dull or cold weather (Poor Man's Weather-glass) ; only one insect visitor recorded, Halictris morio.

1. Very common in the fields at Avery Hill, '06. L.C.C.

var. b.) **cærulea,** Sch. This lovely little fl., though not common, is sometimes met with in chalky arable fields about Down and Cudham.

1. Cudham Valley, near Down, '04. W.H.G.
2. Keston, in oatfield by village, '96. Sc.

1077. **A. tenella,** Lightfoot, 7—8, P. Marshy places, wet heaths ; rather common, but not in our district.

a. Locally abundant Bromley Hill, c. '87. Playfair (private enclosed ground.).
b. First record, 1666 : Meadows between Lewisham and Deptford.

1078. **CENTUNCULUS minimus,** L. 6—7, A. A very small pl., reported as very rare.

a. First record only, 1724 : Chislehurst.

1079. **SAMOLUS Valerandi,** L. (Brookweed), 7—8, P. Damp watery places.

1. Ditches in Stone Marshes near Greenhithe, '02. W.H.G
a. First record, 1629 : Salt Marsh, near Dartford.

Note.—Polyanthus is a cultiv. variety of Primula ; Auriculas are derivatives of Primula. Cyclamen europæum, which is found wild on the Mountains of Bohemia, is a very doubtful denizen in Kent ; in Sicily it is very abundant, and its underground tubers form the chief food of wild boars.

N.O. 2. PLUMBAGINACEÆ. Fls. small, but conspicuous by association.

1054. **LIMONIUM vulgare,** Mill. (Statice limonium, L.), Sea Lavender, 7—9, P. Muddy salt marshes ; frequent.

1. Mud flats of Thames from Greenhithe downwards Dod.
2. Between Strood and Cuxton. H.
a. Marshes between Erith and Greenwich, 1793.
b. First record, 1597 : Gravesend.

var. b.) **pyramidalis,** Syme.

1. Mud flats near Cuxton Stn. Dod.

1058. **STATICE armeria,** L. (ARMERIA VULGARIS, W ; S. MARITIMA, Mill.), SEA PINK, THRIFT, 4—9, P. Fls. sweet-scented ; occurs on mountains and coasts.
1. Ascends the Thames as far as Northfleet. H. and M.

SERIES 2. **TETRACYCLIDÆ** (Warming), Fl. tetramerous by the loss of one whorl of stamens ; carpels reduced (ANISOCARPOUS).

ALLIANCE XIX. CORTORTÆ.

N.O. 1. *OLEACEÆ.*

1080. **FRAXINUS excelsior,** L. 4—5. Woods and hedges especially on the chalk ; abt., but often planted. Fls. protogynous, polygamous, complete or unisexual by reduction ; bud-scales modified petioles.

1081. **LIGUSTRUM vulgare,** L. (PRIVET), 6—7. Thickets ; planted everywhere in hedges and front gardens.

NOTE.—To this order belong : Forsythia (Greenwich Park and Avery Hill), Syringa vulgaris, L. (Lilac), Olea europæa, L. (Olive tree), and Jasminum (Jasmine).

N.O. 2. *GENTIANACEÆ.*

1085. **BLACKSTONIA perfoliata,** Huds. (CHLORA PERFOLIATA, B. & H.), 7—9, A. Damp chalky pastures ; common.
1. Chalky banks, E. side of Sevenoaks Road, Polhill, '06. W.H.G.
2. Up to '00 pl. in meadow known as the " Greenhill," near Down Village, but it has now been all plucked up. W.H.G.
3. Downs above quarry, Oxsted, '03. R.H.C.
4. Greenhithe, roadside, '06. L.C.C.

a. First record, 1597 : " Chalkie cliffes of Greenhithe."

(282) **CENTAURION,** Adans. (ERYTHRÆA, Ren.).

1086. **C. umbellatum,** Gilib. (E. CENTAURIUM, Pers.), 7—8, A. Dry pastures ; very common. Fls. without honey, hetero-styled (Wilson, " *Nature,*" Sept. 5th, 1878).
1. Common in meadows and woods at Crofton, '05. W.H.G.
2. Charlton pits, '03. C.H.G.
3 Joyden's Wood, '05. R.H.C.

1089. **C. pulchellum,** Druce (E. RAMOSISSIMA, Pers. ; under MINUS, B. & H.), 7—9, A. Damp sandy ground ; rather rare.
1. Near Orpington, '80. H. Groves.

1095. **GENTIANA amarella,** L. 8—9, A. or B. Humble bee fl.
1. Common on top ridges of chalk valleys in many parts of the district ; below the woods on the W. top of the Vale of Cudham, near Down, it attains a more luxuriant form with larger fls. than I have seen it elsewhere, '06. W.H.G.
a. First record, 1629 : Chalkedale, near Dartford.

1099. **MENYANTHES trifoliata,** L. (BOGBEAN), 5—7, P. Bogs ; not common in the district. Fls. dimorphic.
a. Milldam, Southend, c. '83. Playfair (but now long extinct).
b. Bogs on Farnborough, Hayes, and Keston Com., 1793.
c. First record, 1629 : Erith.

N.O. 3. *APOCYNACEÆ.*

(279) **VINCA,** L. (PERIWINKLE). For structure of fls. see Lubbock, " British Flowering Plants."

1082. **V. major,** L. 4—5, P. Alien ; hedges and thickets, garden strays.
a. First record, 1715 : near Foots Cray.

1083. **V. minor,** L. 5—6, P. Native ; woods and hedges ; frequent, but often planted or escapes.
1. Between Knockholt and Halstead, far from houses ; Chelsfield by the Shoreham Road. Britton.
2. Beckenham, '94. Kennard.
3. Bostall, '00. C.H.G.
a. Castle Woods, 1836 ; Erith, 1793.

N.O. 4. *ASCLEPIADACEÆ.*

ALLIANCE XX. TUBIFLORÆ.

N.O. 1. *CONVOLVULACEÆ.*

CONVOLVULUS, L. (including VOLVULUS, Medic.), BINDWEED.

1127. **C. sepium,** L. (VOLVULUS, Jung. CALYSTEGIA, Br.), 7—8, P. Hedges and bushy places ; very common. No scent ; fls. remain open on moonlight nights ; visited by the Convolvulus Hawkmoth, which is almost the only effective visitor.

1129. **C. arvensis,** L. 6—8, P. Fields and hedges ; very abundant. Fls. sweet-scented, open only one day ; often infested by a spider Thomisus onustus, which lies in wait for insects visiting the fl.

(301) **CUSCUTA,** L. (Dodder), 7—9, A. Leafless, rootless, and colourless parasites.

1131. **C. europæa,** L. Hedges ; parasitic on herbs. Now probably extinct in the district.

1132. **C. epithymum,** Murr. Heaths ; parasitic on heather, gorse and wood sage ; common.

1133. **C. trifolii,** Bab. (under 1132, B. & H.). Colonist ; parasitic on clover and lucerne ; frequently a troublesome pest.
1. Cooling (M.) ; between Northfleet and Gravesend (Jackson).
2. On clover in meadow between Keston and Down, '00. W.H.G.
3. On Buckwheat in farm lane between Crofton and Chislehurst, '99. W.H.G.
4. In clover field, Pratt's Bottom, '05. R.H.C.

Note.—Ipomæa *sp.* a handsome climber is cultiv. for its fls. (annual sp. at Avery Hill).

N.O. 2. *POLEMONIACEÆ.*

1101. **POLEMONIUM cæruleum,** L. (Jacob's Ladder), 7, P. Hilly bushy places ; rare ; records for the district very old.
1. White flowered form, found growing in a decayed willow in meadows by the Darenth, Eynsford ; prob. bird-sown. A A. Abbott teste W.H.G.
a. In great abundance in Shooter's Hill Wood, 1793.

N.O. 3. *BORAGINACEÆ. Essentially bee flowers.*

(288) **CYNOGLOSSUM,** L.

1102. **C. officinale,** L. (Hound's Tongue), 6—7, B. Rough banks and waste ground ; rather rare.
1. Established since '99 near an old chalk-pit in meadows between Keston and Down ; in '04 only two plants were left ; in '06 there were many. W.H.G.

1103. **C. germanicum,** Jacq. 6—7, A. or B. Alien, garden strays.
a. Southend, by Eltham ! plentiful, 1724 (1st record).
b. Near farmyards at Keston, 1793.

1104. **ASPERUGO procumbens,** L. 6—7, A. A casual in rich waste ground.
a. Near Woolwich, 1846.
b. In a narrow bushy lane leading from the Thames Marshes to Plumstead Churchyard, c. 1842.

(290) **SYMPHYTUM,** L. (Comfrey).

1105. **S. officinale,** L. 5—6, P. Damp places ; very common.

var. b.) **patens,** Sibth.
1. Enclosed land on bank of Ravensbourne, Southend, '06. W.H.G.

S. asperrimum, Bieb. Alien ; an occasional relic of cultiv.
1. Roadside hedge opp. a farm, S. of Cliffe Rly. Stn. M.

1107. **BORAGO officinalis,** L. 6—7, A. or B. A garden stray on rubbish heaps and waste ground.
1. One pl. in hedge, Beckenham, '94. Sc.
2. On banks of lower Eocene pebble-gravel, about entrance to new road on E. side of Bromley Hill, '04. W.H.G.

1109. **ANCHUSA sempervirens,** L. Alien ; an occasional relic of cultivation.

1110. **LYCOPSIS arvensis,** L. (Bugloss), 6—7, A. Casual in cultivated fields.
1. Bromley, Beckenham, '97. Sc.
2 Dry arable field near Joyden's Wood, '01. W.H.G.
3. Allotment gardens under railway bank, St. Mary Cray, '02. W.H.G.
4. Borough Green, '05. W.H.G.
5. Wansant pit, '05. R.H.C.
a. First record, 1629 : Chalkedale, near Dartford.

1112. **PULMONARIA officinalis,** L., Lungwort, 4—5, P. Naturalised in copses ; v. rare, Fls. dimorphic. The only Kent record is ;—In woods between Knockholt, Cudham, and Down, 1793.

(296) **MYOSOTIS,** L. (Forget-me-not).

1114. **M. cæspitosa,** Sch. (under palustris, B.), 6—8,. P. muddy places ; com.

1115. **M. scorpioides,** L. (palustris, With), 6—8. P. wet places ; v. com.

1116. **M. repens,** Don. (under PALUSTRIS, B. & H.), 6—8, P. Boggy places; local.
a. Keston Common, 1831; '92. Sc.

1118. **M. sylvatica,** Hoff. 5—6, B. or P. Shady places, esp. on the chalk; loc. abt.
1. Though fairly pl. in woods and hedges betw. Tatsfield and Titsey in Surrey, it is not found on the Kent side of the county boundary. M. arvensis var. umbrosa is prob. mistaken for it. W.H.G.
2. Greenhithe chalk-pit (an escape). Dod.
a. First record, 1666; Charlton.

1119. **M. arvensis,** Hill. 6—8, A., rarely B. Com. on borders of dry arable fields and in thickets.

var. b). **umbrosa** (Bab.). Common in woods, esp. on the chalk.

1120. **M. collina,** Hoff. 4—5, A. Dry banks; frequent.
1. Hayes Com., Holwood Park, Keston, '02. W.H.G.
2. Freq. at Hayes and Keston, '97. Sc.
3. Holly Hill Estate, Belvedere, '04. R.H.C.

1121. **M. versicolor.** Sm. 5—6, A. Dry gravelly places, commons; freq.
1. Freq. Hayes and Keston Commons, '97. Sc.

(297) **LITHOSPERMUM,** L. (GROMWELL).

1122. **L. purpureo-cœruleum,** L. 5—7, P. Chalky thickets; v. rare.
a. Once reported from Darenth Wood, near Greenhithe (1793 and 1832), but Dod could not find it in '93, the hospital prob. having been built over its station.

1123. **L. officinale,** L. 6—8, P. Dry, stony or chalky places; frequent.
1. Coppice betw. Keston and Down, '04. W.H.G.

1124. **L. arvense,** L. 5—7, A. An occasional weed in chalky arable fields.
1. Nr. Swanley, '03. W.H.G.

1125. **ECHIUM vulgare,** L. (VIPER'S BUGLOSS), 6—7, B. Not uncom. in rough grassy places on chalk hill sides.
1. Vale of Cudham and other dry valleys nr. Down, '06. W.H.G.
2. Keston Chalk pit. A.D.W.
3. Paul's Cray Common, '99. C.H.G.
4. Dartford Heath, '04; Butt's pit, Wrotham, '05. R.H.C.

N.O. 4. *VERBENACEÆ.*

1217. **VERBENA officinalis,** L. (VERVAIN), 7—8, P. Waste ground, roadsides ; com. Bee fls. The old tradition that it is never found more than half a mile from a human habitation has an element of truth in it. W.H.G.
1. Gravel pit, Hayes, '05. F.M.R.
2. In fields between Keston and Down, '07. J.F.B.

NOTE.—Tectona grandis yields Teak, a hard wood used for laboratory benches and railway carriage doors ; Clerodendron is a beautiful greenhouse climber (Avery Hill).

N.O. 5. *LABIATÆ. Most British sp. are Bee fls.*

(326) **MENTHA,** L. (MINT). A very variable genus.

1218. **M. rotundifolia,** Huds., and 1219. **M. alopecuroides,** Hull.
a. Records confused or old.

1220. **M. longifolia,** Huds. (SYLVESTRIS, L.), 8—9, P. Wet waste ground ; freq. and locally plentiful.
1. Meadows by the Darenth betw. Shoreham and Eynsford, '86. W.H.G.
2. Riverside, nr. Eynsford, '86. J. Groves.
a. First record, 1666 : Dartford.

1221. **M. spicata,** L. and Huds. (VIRIDIS, L.), the POT-HERB MINT, 8—9, P. Naturalised in some wet places. Small females occur among the complete fls.

1222. **M. piperita,** L. (PEPPERMINT), 7—8, P. Denizen ? wet places ; very rare.
1. Chelsfield, cultivated, '04. W.H.G.

1224. **M. aquatica,** L. (HIRSUTA, Huds.), 7—9, P. Wet places ; v. com. and v. variable.
var. b.). **subglabra,** Baker, less com.
1. Old gravel pit near Ravensbourne Ry. Stn., '04. W.H.G.

1225. **M. gentilis,** L. (*collective species*, M. SATIVA, L., not the M. GENTILIS of H. and M.), 7—8, P. Wet places, not uncom.
1. Cliffe. H.
2. Wood betw. Orpington and Chislehurst, '05. R.H.C.
a. By rivulet, Lewisham ; Mary Cray ; Darenth Wood, 1877.

1230. **M. arvensis,** L. 7—9, P. Cornfields, waysides ; v. com.
var. c). **agrestis,** Sole.
1 Cliffe. H.

1231. **M. pulegium,** L. (Pennyroyal), 8—9, P. Damp places, esp. heaths; rare.
1. Chislehurst Com. Dod. Still survives in shallow pond on Chislehurst Com. but prob. less pl. than formerly, '06. W.H.G.

1232. **LYCOPUS europæus,** L. (Gipsywort), 7—8, P. Wet places; v. com.
a. First record, 1629: Erith.

1233. **ORIGANUM vulgare,** L. (Marjoram), 8, P. Dry uncultiv. places; abt., esp. on the chalk, and in chalk pits.

(329) **THYMUS,** L. (Thyme). Fls. complete or f.

1234. **T. serpyllum,** Fries. 6—8, P. Dry pastures, banks, heaths and commons; v. com.
a. First record, 1597: Southfleet.

1235. **T. chamædrys,** Fries, (under **serpyllum,** B. & H.), 6—8, P. Heaths and chalk downs; freq.
1. Chislehurst Com., Dartford Com. and Heath. Dod.
2. Hayes Common, '06. W.H.G.
3. Dartford Heath, '03. R.H.C.

(330) **CLINOPODIUM,** L. (Calamintha, Moench), Calamint.

1236. **C. vulgare,** L. (Cal. clinopodium, B. & H.), Wild Basil, 7—8, P. Dry bushy places, hedges, roadsides; com.

1237. **C. acinos,** Kuntze (Cal. arvensis, Lam.), 7—8, A. Rough banks and dry fields; freq., esp. on the chalk.
1. Chalky arable field betw. Keston and Down, '04. W.H.G.
2. Nr. Down, freely, '97. Sc.

1238. **C. nepeta,** Kuntze (Cal. parviflora, Lam.), 7—8, P. Dry banks, roadsides; local.
1. Abbey Wood; Brook Street, Belvedere. Dod.
a. Sandpits by Charlton Church, 1777.

1239. **C. calamintha,** Kuntze (Cal. officinalis, Moench.), 7—9, P. Dry banks; local.
1. Lane End; Lower Halling. Dod.
2. Holly Hill, above Ryarsh. Rogers.
3. Plentiful on roadside bank betw. Shoreham village and R. Stn. in '94, but it had disappeared in '06 through the bank having been cleared of vegetation; it will prob. reappear. W.H.G.

1241. **MELISSA officinalis,** L. (Balm), 7—8, P. Alien ; roadsides, from old garden escapes.
1. Nr. Bromley, well established, '97. Sc.
2. Roadside, Higham Street. H.
3. Hedge betw. Wrotham and Trottescliffe, '00. W.H.G.
4. Patch near Sundridge Park, '97. Sc.

(332) **SALVIA,** L. Bee fls.

1242. **S. verbenaca,** L. (Sage), 5—6, P. Dry banks ; local. Cleistogamic fls. occur.
1. Strood, H. ; Dartford, M.
2. Railway banks nr. St. Mary Cray Stn., '85, Playfair ; '04. W.H.G.
3. By Darenth Church. Dod.
4. Road to Green Street Green, Dartford, '05. R.H.C.
a. Old records show it once ab. about Woolwich.
b. First record, 1601 : " Greenwicij."

1243. **S. pratensis,** L. 7, P. Grassy banks and pastures ; v. r. indeed.
1. S. side of Great Wood, Cobham Park, '89, Doel ; the only station in the S. of England ; still there, '04. W.H.G.
a. First record, 1600 ; Cobham (same spot).

S. sylvestris, L. Alien ; reputed to be a hybrid between S. pratensis and verbenaca.
1. High bank near Knockholt R. Stn., '04, prob. bird-sown, but the seeds may have come with hay from abroad. W.H.G.

S. verticillata, L. Alien.
1. Casual, betw. Crossness and Erith, '89. Dod.
2. Woolwich Arsenal, '94. Dod.
3. Roadside nr. W. Wickham R. Stn., '05. W.H.G.
4. Lower Tertiary gravel pit on Hayes Com., two plants, '07. W.H.G.

(333) **NEPETA,** L. Fls. complete or *f.*

1244. **N. cataria,** L. (Catmint), 7—8, P. Dry and waste places ; not com.
1. Plentiful in Plum Lane Brickfields, Plumstead. Dod.
2. Lane leading from W. Wickham to Hayes Com. Britton.
3. Roadside opp. Leaves Green chalk pit, '04. W.H.G.
4. Hedgebank, Sevenoaks Rd., nr. Green Street Green, '02. W.H.G.
5. Timberden Bottom, betw. Sevenoaks Rd. and Lullingstone, '03. W.H.G.
6. Farnborough, '95, Sc. ; Down, '97. Playfair.

1245. **N. hederacea,** Trev. (GLECHOMA, Benth.), GROUND IVY, 4—6, P. Hedges and thickets ; v. com.

(334) **SCUTELLARIA,** L.

1246. **S. galericulata,** L. (SKULLCAP), 7—8, P. Wet places ; freq.
1. Woolwich Arsenal, Wood nr. Northumberland Heath. Dod.
2. Higham Marshes ; about Cuxton Stn. Dod.
3. Eynsford. H. Darenth Bridge, '04. C.H.G.
4. Formerly well est. on bank of "Duckpond," Southend, but destroyed in '03 by the widening of the footpath. W.H.G.
5. Joyce Green, nr. Dartford, '03. W.H.G.
6. Bank of Darenth, Otford, '04. W.H.G.
7. Bromley and Hayes, '97. Sc.

a. First record, 1629 : Erith.

1247. **S. minor.** Huds. 7—9, P. Boggy places, rather rare.
1. Bottom of boggy valley, W. side of Keston Com., '06, W.H.G. ; '97, Sc.

a. Keston Mark, 1836.

1248. **PRUNELLA vulgaris,** L. (SELFHEAL), 7—8, P. Damp pastures and heaths ; v. com.
1. A white flowered form in lower part of Chevening Park, '06. W.H.G.

1250. **MARRUBIUM vulgare,** L. (WHITE HOREHOUND), 8—9, P. Denizen or alien, us. an escape from cultiv., formerly medicinal.
1. Plumstead Marshes ; Slade's Ravine ; Crossness ; Woolwich Arsenal. Dod.
2. Isle of Grain. Jackson.
3. Betw. High Elms and Keston, c. '83. Playfair.

(338) **STACHYS,** L.

1251. **S. officinalis,** Fr. (BETONICA, Benth.), BETONY, 7—8, P. Woods, shady paths ; v. com.

1252. **S. germanica,** L. 7, B. Denizen or alien ; chalky soil ; v. rare.
a. Once in a field by the side of Darenth Wood, Kent, '57. Syme.

1253. **S. palustris,** L. 7—8, P. Wet places, cultiv. and waste ground ; somewhat rare in the district.
1. Ditches about Southborough, nr. Bickley, and Crofton, '04. W.H.G.
2. Hayes, '97. Sc.
3. Collier's Lane, Northumberland Heath, '03 ; Brook Str., Belvedere, '04. R.H.C.
a. First record, 1597 : " about Southfleete neere to Gravesend."

1254. **S. sylvatica,** L. 7—8, P. Woods and thickets ; v. com.
a. First record, 1629 : Cliffe.

1255. **S. arvensis,** L. 8—9, A. Cornfields and waste ground ; com.
1. In strawberry field, Crofton, '04, and Chelsfield, '05. W.H.G.

1256. **S. annua,** L. 8, A. Colonist ? Fields and chalk downs ; very rare.
1. Footpath betw. Bromley Hill and Ravensbourne, '05. W.H.G.
2. Hayes Gravel pit, '06. W.H.G.
a. Betw. Gad's Hill and Sevenoaks, '30, '37, '55, '73, and may still be there.
b. Should be looked for on old river gravels. W.H.G.

(339) **GALEOPSIS,** L. (Hemp Nettle).

1258. **G. ladanum,** L. (angustifolia, Ehr.), 7—9, A. Colonist ? Arable fields ; freq.
1. Wilmington. Dod.
2. Occas. seen in chalky arable fields about Keston and Down, '06. W.H.G.

(1257.) var. b). **intermedia,** Vill. (G. Ladanum, L., *stricto sensu*, H. and M.).
1. Hayes Gravel pit, '05. W.H.G. [A new county record].

1259. **G. dubia,** Leers. (ochroleuca, Lam.), 7—8, A. Casual ; chalky banks ; exc. rare.
a. First record only, 1836 : roadside from Dartford Heath to Green Street Green ; small chalk pit, out of Darenth Wood.

1260. **G. speciosa,** Mill. (versicolor, Curt. ; under Tetrahit, B. & H.), 7—8, A. Colonist. Cultiv. fields ; rare.
1. As a garden weed, Lower Sydenham R. Stn., '00. W.H.G.

1261. **G. tetrahit,** L. 7—9, A. Woods and chalky fields ; common.

a. First record, 1597 : "About Gravesende and Southfleete."

(341) **LAMIUM,** L. (Dead Nettle). Bee fls., often found near stinging nettle communities, where it is protected against browsing animals.

1263. **L. amplexicaule,** L. (Henbit), 5—8, A. Cultivated and waste ground ; frequent but not abundant ; cleistogamic buds in spring and autumn.

1. Garden borders, Borough Green Rly. Stn. '03. W.H.G.
2. Roads near Bellingham and Ravensbourne Rly. Stations, '05. W.H.G.
3. Cultivated fields, W. Wickham, '97. Sc.

1265. **L. hybridum,** Vill. (under purpureum, B. & H.), 4—6, A. Waste or cultivated ground, hedgebanks ; locally abundant.

1. About Lee, Burnt Ash, and Eltham, plentiful. Dod.
2. A pretty little form with very small fls. and dark purplish-green leaves, near Lee. Dod.

1266. **L. purpureum,** L. (Red Dead Nettle), 4—8, A. Waste and cultivated ground ; very abundant. White fls. here and there.

var. b). **decipiens,** Sond., with more deeply cut leaves.

1. By railway between Higham and the Marshes. Dod.

1267. **L. album,** L. (White Dead Nettle), 5—6, P. Roadsides, hedges, waste places ; usually in stinging nettle communities, a case of protective mimicry. Humble bee fls ; very common.

1267. **L. maculatum,** L. Alien ; escapes.

1. Roadside bank of a cottage garden, near former residence of Dr. Darwin at Down, '03. W.H.G.

1269. **L. galeobdolon,** Crantz. 5—6, P. Hedges and woods ; common on the chalk.

a. First record, 1597 : Lord Cobham's Woods in Kent.

1270. **BALLOTA nigra,** L. (Black Horehound), 7—8, P. Hedges, waste places ; most abundant. White flowered form, Eltham, in an old orchard, '07. J.F.B.

(343) **TEUCRIUM,** L.

1271. **T. botrys,** L. 8—9, A. Hilly ground on the chalk ; very rare.
1. Abundant in one spot, on slopes over Upper Halling, '94. Dod. (a county record) ; it occurs on Box Hill in Surrey.
2. Abundant every year since '99 on uncultivated chalky land between Addington and Farley, in Surrey, but like other Surrey pls., does not seem to have crossed the Ravensbourne Valley, '06. W.H.G.

1274. **T. scorodonia,** L. (Wood sage), 7—8, P. Woods, dry heaths and downs ; very common.

(344) **AJUGA,** L.

1275. **A. reptans,** L. (Bugle), 5—6, P. Damp woods and pastures ; abundant ; veg. reproduced by runners.
a. First record, 1597 : " Upon Blacke Heath neere London fast by a village called Charleton."

1277. **A. chamæpitys,** Sch. 5—7, A. Colonist ? Fields and rough banks on the chalk ; rare.
1. In oatfield by Keston Village, '96. Sc.
2. Swanley, H. ; near Halling. M. and Dod.
3. Wilmington ; slopes E. of Trottescliffe. Dod.

Once abundant on land relapsed from cultivation near Skid Hill, between Cudham and Chelsham, but it was starved out by grasses, etc., in '04. The only places where I have known it to hold out on uncultivated land is on a hillside between Addington and Chelsham, and in Headley Lane, Box Hill, both in Surrey. W.H.G.

Note.—Cultivated pls. of the order are :—Rosmarinus officinalis, L. (Rosemary, from the Medit.), Lavandula vera, DC. (Lavender), Hyssopus officinalis (Hyssop, formerly medicinal), and Satureia hortensis, L., and montana, L. (summer and winter savories, flavouring herbs).

N.O. 6. *SOLANACEÆ.*

(302) **SOLANUM,** L.

1134. **S. dulcamara,** L. (Woody nightshade), 6—7, Shrub. Heaths and thickets ; very common. Bee fl. ; no honey, but sham green nectaries occur at the base of the corolla lobes. var. b). **marinum,** Bab. 1. Isle of Grain, Jackson.

1135. **S. nigrum,** L. 7—10, A. Waste and cult. ground ; v. com.

S. TUBEROSUM is the potato ; S. LYCOPERSICUM, L. (LYCOPERSICUM ESCULENTUM, Mill), the Tomato.

1136. **LYCIUM barbarum,** L. "TEA-PLANT," 6—8, shrub. Alien, cultivated. Freq. in hedges aud against houses.

1. Top of Shooter's Hill, in hedge, '06. J.F.B.

1137. **ATROPA belladonna,** L. (DEADLY NIGHTSHADE), 6—8, P. Waste places, woods, and thickets ; local on the chalk. Protogynous humble bee fls.

1. Woods at Halling, and Shoreham (plentiful). H. & M.
2. Slopes E. of Trottescliffe. Dod.
3. In chalk-pit near Keston, '97. Kennard.
4. Chalk bank between Keston and Down, long established, '06. W.H.G.

a. Lane between Plumstead Lane and Abbey Farm, 1793.

1138. **DATURA stramonium,** L. (THORNAPPLE), 6—7, A. Casual, waste ground and rubbish heaps, garden escapes.

1. Woolwich Arsenal, sporadically. Dod.
2. Gravel-pit in new road between foot of Bromley Hill and Ravensbourne, '05 ; occasional pls. seen in the same locality for several years past. W.H.G.
3. Heap of ballast in builder's yard, Belvedere, six plants, '05. R.H.C.
4. Naturalised in Deer Park, Greenwich Park, the sloping banks of a disused gravel-pit having fostered it for at least half a century, '01. A.D.W.

1139. **HYOSCYAMUS niger,** L. (HENBANE), 5—7, B. Waste and bushy places on the chalk,often only garden escapes. Humble bee fls.

1. About Practice Butts, Plumstead Marshes. Dod.
2. Dartford Common and gravel-pit ; pasture at Darenth. Dod.
3. Isle of Grain. Jackson.
4. Bushy places above Halling. M. and Dod.
5. Well established on chalk slope, near footpath, in Lullingstone Park, '05. W.H.G.
6. Gravel-pit, Hayes, one pl. '05. F.M.R.
7. Greenwich Park and Avery Hill (wild).

NOTE.—Cultivated plants of the order are :—Nicotiana tabacum, L. (tobacco), Physalis (Winter Cherry), Petunia, Capsicum annuum, L. (Chillies), Schizanthus and Mandragora (Mandrake).

N.O. 7. *SCROPHULARIACEÆ.*

(307) **VERBASCUM,** L. (MULLEIN), large biennial or perennial herbs with stout wrinkled roots; fls. open, with short tube, visited by bees and drone flies. Hybrids freq.

1140. **V. thapsus,** L. 7—8, B. On banks and hillsides on the chalk; very common.

a. First record, 1597: Blackheath; about the Queen's house, Eltham; near Dartford.

1142. **V. lychnitis,** L. 7—8, B. Roadsides and waste places on the chalk; frequent. Fl. sterile to its own pollen (Darwin).

1. Railway banks, Bickley. Dod.
2. Old gravel-pit near Hayes Common, '03. W.H.G.
3. Down side of the Vale of Cudham, '06. W.H.G.
4. Infrequent. Hayes and Beckenham, '97. Sc.
5. Pathside near pond, and in Ranger's Grounds, Greenwich Park, '01. A.D.W.

a. First record, as 1140.

b. Shooter's Hill, Walls of Bexley Church, etc. (1746).

V. lychnitis × thapsus.

1. Down. Charles Darwin.
2. Near Magpie Bottom, Shoreham. M.
3. Old gravel-pit below W. side of Hayes Common, '03. W.H.G.

a. Castle Wood, Shooter's Hill; Charlton Chalk-pit, 1836.

1143. **V. nigrum,** L. 7—8, P. Banks and waysides, especially on old river gravels; local. Fls. sterile to its own pollen (Darwin).

1. Northfleet, H. and M.; Knockholt, Bennett.
2. Abundant on roadside between W. Wickham Common and Addington Village, '04. W.H.G.
3. Hayes, Gates Green, '97. Sc.
4. Road to Cudham, outside Green Street Green, '05. R.H.C.

a. Blackheath, 1650; between Shooter's Hill and Dartford, 1746; Charlton Wood, 1763; Woolwich Warren, 1793.

V. thapsus × nigrum.

1. Old gravel-pit in road below W. side of Hayes Common, '03. W.H.G.

a. Near Charlton, Jackson; near Farnborough, Syme.

1144. **V. virgatum,** Stokes, 8, B. Denizen (?) Roadsides, chalk-pits ; very rare. All old records :—

a. Charlton, '42. F. A. Hanbury.
b. Old chalk-pit, Dartford, '60.
c. First record, 1629 : Erith.

1145. **V. blattaria,** L. 8, B. Denizen (?) Roadsides, chalk-pits ; rare and diminishing. Records old or doubtful.

a. Charlton, '42. F. A. Hanbury.
b. Shooter's Hill, 1838.
c. First record, 1640 : Blackheath.

Note on the Hybrids of Verbascum.—With regard to the hybrids of V., Mr. W. H. Griffin grew Thapsus, Lychnitis, and nigrum for several years ; and while Thapsus crossed freely with either of the other two, presumably by insect-borne pollen, Lychnitis and nigrum never so crossed.

(308) **LINARIA,** Miller (Toadflax). Peloria sometimes occurs ; so do hybrids.

1146. **L. cymbalaria,** Mill. (Ivy-leaved Toadflax), 4—10, P. Alien, naturalised on old walls ; frequent. For the seed-dispersal, see Willis, Lubbock, or Kerner.

1. W. Wickham, '97. Sc.
2. Abt. on walls of Wickham Court Gardens on road from Wickham to Cudham, '06, W.H.G. ; '05, F.M.R.
3. Wall, Greenwich Park, '01. A.D.W.

1147. **L. elatine,** Mill. 7—9, A. Arable fields, especially on the chalk ; common ; gen. associated with L. spuria.

1. Oatfield near Elmer's End, '05. F.M.R.
2. Casual in wheat field near Elmstead Lane, '92. Sc.
3. Chalky arable field between Keston and Down, '04. W.H.G.
4. Arable fields about Eltham, '06. L.C.C.

a. First record, 1597 : Southfleete.

1148. **L. spuria,** Mill. As 1147 ; in all the stations given above for L. elatine, L. spuria was growing with it.

1151. **L. purpurea,** Mill. 7—8, P. Alien, established here and there on old walls.

a. A few old records.
b. Walls at Eltham, c. 1835.

1152 **L. repens,** Mill. 7—9, P. Chalky soils ; very rare.

1. Farningham, '80. J. Groves.
a. Gad's Hill, 1762.

L. repens x vulgaris.

1. Farningham, '80. J. Groves.

1153. **L. vulgaris,** Mill. (Toadflax), 6—7, P. Waste ground, hedgebanks, etc. very common. Peloria frequently occurs, the terminal fl. having a regular tubular mouth and five spurs ; sometimes more than one flower is peloric.

1154. **L. minor,** Desf. (viscida, Mœnch), 6—8, A. Colonist (?) Frequent about the gateways and banks of chalky arable fields and on railway ballast.

1. Roadway to Goods Siding at W. Wickham Rly. Stn., '01–'06. W.H.G.
2. Flint Quarry, Pole Hill. R.H.C.
3. Chalk-pit and cultivated field, Keston, '97. Sc.

(309) **ANTIRRHINUM,** L. (Snapdragon).

1155. **A. majus,** L. 7—9, P. Alien, naturalised on old walls, chalky cliffs and railway cuttings ; largely cultivated. A bee fl., but the bees often bite through the tube to get at the honey. Peloria sometimes occurs in the terminal fl. of the raceme, and by cultivation all the fls. may become regular. A fine bed of peloric Antirrhinums may be seen in Chelsea Physic Gardens.

1156. **A. orontium,** L. 7—8, A. Colonist. Sandy fields, gardens ; not common. A smaller fl. than 1155, and visited by hive as well as humble bees.

1. Seen once or twice amongst the potato crops in fields below Fox Hill, Keston, '00. W.H.G.
2. As a garden weed, near Hayes Village, '01. W.H.G.
3. In cultivated fields at Hayes and W. Wickham, '97. Sc.
4. Slopes of Plumstead Common. Dod.
a. First record, 1629 : Near Gravesend.

(310) **SCROPHULARIA,** L. (Figwort).

1157. **S. aquatica,** L. 7—8, P. Wet places ; very common.

1159. **S. nodosa,** L. 6—7, P. Moist hedges and thickets; very common, especially on the lower Eocene pebble-gravel. Protogynous wasp fls.; the only other essentially wasp fl. in the English flora is EPIPACTIS LATIFOLIA, which is also a dingy purple. In the Alps COTONEASTER VULGARIS is visited solely by wasps. Wasps and blowflies also buzz about the fls. of the Ivy, attracted by the intoxicating nectar, which sometimes makes them incapable of flight.

1161. **S. vernalis,** L. 4—5, P. Alien; wet places. A sweet-scented bee fl.
1. At Chislehurst in several places. Reeves.
2. Introduced in a wood at Chislehurst, '95. Wollaston.

1162. **MIMULUS Langsdorfii,** Donn. (LUTEUS, L.), MUSK, 6—9, P. A North American alien, est. here and there in boggy places.
1. Plentiful by the Cray at St. Mary Cray. Dod
2. Meadows below Crayford. Dod.
3. Plentiful on a shoal in the Ravensbourne, a little above Catford Bridge, '89. W.H.G.
4. Banks of Cray, in meadows between Bexley and N. Cray, '05, W.H.G.; '07, L.C.C.

1165. **DIGITALIS purpurea,** L. (FOXGLOVE), 6—8, P. Hedgebanks and woods; a pronounced calcifuge; common. A humble bee fl., self-sterile (Darwin).

(315) **VERONICA,** L. Fls. with short open tube, visited by bees and flies.

1166. **V. hederifolia,** L. 4—6, A. Dry fields, banks, and waste ground; very common.

1167. **V. didyma,** Ten. 4—9, A. Fields and waste places; common.

1168. **V. agrestis,** L. 4—9, F. Fields and waste places; very com.

1169. **V. buxbaumii,** Ten. (TOURNEFORTII, Gmel.), 4—9, A. Colonist; introduced into England since 1825, but now common in cultivated and waste places.
1. Arable field, Whitefoot Lane, Southend, '02. W.H.G.
2. Chelsfield; Chalk-pit, Birchwood Corner to Darenth, '99. C.H.G.

a. First record, 1837: Hayes and Keston.

1172. **V. arvensis,** L. 4—7, A. Walls, dry places; abundant.
1. Garden walls, by roadside from Keston Mark to Lock's Bottom, '05. W.H.G.

1173. **V. serpyllifolia,** L. 5—7, P. Damp places, waste and cultiv. ground ; very common.
1. Abundant by public footway through Holwood Park, '06. W.H.G.
2. Dartford Heath, '04. C.H.G.

1178. **V. officinalis,** L. 6—8, P. Dry banks and sandy heaths ; very common.

1179. **V. chamædrys,** L. (Germander Speedwell), 5—6, P. Hedgebanks and pastures ; very common indeed. Fls. close at night, pollinated by drone flies ; pls. often disfigured by galls of Cecidomyia veronicæ.

1180. **V. montana,** L 5—6, P. Moist woods and thickets ; freq.
1. Roadside bank below Holwood Park, Keston, '03. W.H.G.
2. Moist woods, Beckenham and Bromley, '97. Sc.
3. Boarer's Wood, Abbey Wood, '04. R.H.C.
a. First record, 1774 : Charlton.

1181. **V. scutellata,** L. 6—8, P. Boggy places ; rather rare.
1. Shallow pond, often dry, W. side of Keston Common, '06. W.H.G.
2. Coney Hill, Hayes, '04. F.M.R.
3. Holwood, '93. Sc.
a. Keston Mark, 1836 ; Dartford, 1850.

1182. **V. anagallis-aquatica,** L. 6—8, P. Aquatic ; not common in the district.
1. Marshes between Greenhithe and Northfleet, Jackson.
2. Stream at Lullingstone. H.
3. Cooling Marshes; between Farningham and Eynsford. M.
4. Hayes Ford, '97. Sc.
5. Tributary of Ravensbourne, near Southend, '03. W.H.G.

Both the type and var. b.) **anagalliformis,** Bor., are freq. in the Darenth in and about Eynsford, '06. W.H.G.

1183. **V. beccabunga,** L. (Brooklime), 5—8, P. Water or mud ; very common.
a. First record, 1629 : Erith.

Note.—Evergreen Veronicas, ch. from N. Zealand, are favourite front garden shrubs.

(316) **EUPHRASIA,** L. (Eyebright). Protogynous bee fls. with dry pollen ; partial parasites on the roots of grasses.

1184. **E. officinalis,** L. 6—8, A. Pastures, woods, and heaths; very common. Under this single aggregate sp. B. & H. include all the Euphrasias in the N. hemisphere. Wettstein, in a monograph (1896), divides it up into fifty critical species, 14 of which, according to the late Mr. F. Townsend, occur in Britain (1897). Most of the information given below has been contributed by Mr. W. H. Griffin, who has followed Townsend; but there is room for much more work. Critical forms or subspecies of E. OFFICINALIS (Babington's "*Manual*"):—

E. Rostkoviana, Hayne. Widely distributed.
1. Keston Common, '03. W.H.G.

E. Kerneri, Wett. On chalk and limestone.
1. Upper Halling, '94. Dod teste Townsend.
2. Grassy hillside W. of Shoreham, Village, '02. W.H.G.
3. On Darwin's Orchid Bank, near Down, '03. W.H.G.

E. nemorosa, H. v. Mart. Very common on the borders of Woods on the chalk. W.H.G.
1. Slopes above Upper Halling; Dartford Heath. Dod. teste Townsend.

E. gracilis, Fries. Probably common on the heaths.

E. Rostkoviana x brevipila, Burn et. Grem.
1. Gravelly meadow opp. Fox, Keston, '03. W.H.G. teste Townsend.
2. Rushmoor Hill, Knockholt. H. D. Hewitt teste W.H.G.
3. (Similar pls. have been examined by W.H.G. from Cornwall).

Mr. F. Townsend has described six other British hybrids.

1185. **ODONTITES rubra,** Gilib. (BARTSIA ODONTITES, Huds.), 7—8, A. Fields, weedy roadsides and dry waste places; common, especially on the chalk and lower Eocene gravels. Semi-parasitic on the roots of grasses, with loose-pollen fls. var. b.) **serotina,** Reich.
1. Old chalk-pit, Northfleet, '01. W.H.G.

(318) **PEDICULARIS,** L. Semi-parasites on the roots of grasses, with loose-pollen fls.

1188. **P. palustris,** L. (LOUSEWORT), 5—8, A. Boggy places; rather rare.
1. Water meadows, Northfleet. Dod.
a. Keston Mark, 1836 (perhaps a mistake for P. SYLVATICA. W.H.G.)

1189. **P. sylvatica,** L. (Red Rattle), 5—8, P. Moist heaths, open copses, damp hill pastures ; not common.
1. Pl. in boggy valley on Keston Common, '06. W.H.G.
a. First record, 1629 : Erith.

1190. **RHINANTHUS crista-galli,** L. (Yellow-Rattle), 6, A. Moist meadows and pastures, especially on the chalk ; common, and often a serious pest. Semi-parasites on grass roots, with loose-pollen fls., visited by humble bees and sometimes butterflies.

1194. **MELAMPYRUM pratense,** L. (Cow-wheat), 6—8, A. Moist woods and thickets ; very common in these habitats near Woolwich. Semi-parasites on the roots of grasses. Very long corolla tube (15 mm.) ; the secretion of nectar does not cease with the fading of the fl. ; it attracts ants (Formica fusca), who mistake the seeds for their chrysalises and take them away (Lubbock).
var. b). **latifolium,** Bab.
1. Near Shoreham, M.

Note.—Other cultivated plants belonging to this order are :—Calceolaria and Pentstemon.

N.O. 8. *OROBANCHACEÆ. Total root parasites, only separated from the Scrophulariaceæ because of their aristocratic dependency on other plants.*

(321) **OROBANCHE,** L. (Broomrape)—No Chlorophyll ; embryo a simple filament without cotyledons and differentiation of parts. The only Sp. whose presence in the district has been confirmed is O. minor.

1199. **O. major,** L. 5—7, P. Heaths ; parasitic on leguminous shrubs, as furze and broom.
a. Gates Green gravel pit, '93. Broom nearly all dead in '97. Sc.
b. Charlton Wood, 1787 ; Eltham, 1836.
c. 1st record, 1587 ; Shooter's Hill.
Probably robust plants of O. minor were mistaken for major. W.H.G.

1202. **O. elatior,** Sutton. 6—7, P. Very rare ; parasitic on Centaurea scabiosa.
a. Fields nr. Woolwich, 1836.

1204. **O. hederæ,** Duby (under minor, B. & H.), 6—7, P. Parasitic on ivy ; v. rare.
a. Wood on side of chalk hills nr. Shoreham, 1868.

1205. **O. minor,** Sm. 6—7, A. Occas. in clover fields, ch. on trifolium pratense.
1. Railway bank, Eynsford, M.
2. Abt. in old chalk pit, by the marshes, Swanscombe, '00—'04. W.H.G.
a. Charlton sandpit, 1805.

1207. **LATHRAEA squamaria,** L. (Toothwort), 4—5, P. A subterranean plant, parasitic on the roots of elm, hazel and maple; its flowers come above ground. The hairs in the leaf-chambers have no carnivorous function, but are merely water excreting organs (Groom and Haberlandt). Hedges, woods and thickets; loc. abt.
1. Down, common. Charles Darwin.
2. V. com. in the hedges about Down and Keston. I have traced it from Knockholt thr. Cudham, across the village to Down, and thence to Keston Church. It may gen. be found in April about the entrance of the Avenue to Down Court, '06. W.H.G.
3. Roots of elm, roadside bank, Elmstead Lane, '07. J.F.B.

N.O. 9. *LENTIBULARIACEÆ. Insectivorous plants.*

1208. **UTRICULARIA vulgaris,** L. (Bladderwort), 6—8, P. An aquatic; fls. aerial, visited ch. by flies; seeds ripen below water. Local.
1. Pond betw. Beckenham and Bromley. Reeves.
2. Stone Marshes, in a ditch, '04. B. T. Lowne.

1213. **PINGUICULA vulgaris,** L. (Butterwort), 5—6. Bogs. Prob. not found at all in the district now.
a. Keston Common, about '82. Playfair. (Introduced).

Note.—Cultivated plants of other orders of the Tubifloræ include:—Bignonia and Catalpa (Bignoniaceæ), Gloxinia, Sinningia and Gesnera (Gesneriaceæ), Acanthus (Acanthaceæ).

ALLIANCE XXI.—PLANTAGINALES.

N.O. 1. *PLANTAGINACEÆ. Generally protogynous wind flowers.*

(345) **PLANTAGO,** L. (Plantain).

1278. **P. major,** L. 6—8, P. Fields and waste places; v. com.

1279. **P. media,** L. 6—9, P. Dry chalky pastures and meadows; v. com., sometimes visited by insects for honey. Fls. complete or unisexual, monœcious or dicœcious.

1280. **P. lanceolata,** L. 7—9, P. Pastures, waste and cultivated places; v. com. Hive bees visit the fl. for pollen. Fls. complete or *f.*

Var. b). **Timbali.** Reich.

1. Shorne Battery. H.
2. Field-border, Isle of Grain. Jackson.
3. Clover field, nr. Stone. M.

1281. **P. maritima,** L. 6—9, P. Coasts and muddy shores of tidal rivers.

1. Near Thames, Greenhithe, '02. W.H.G.
2. Marshes nr. Crossness, '02. C.H.G.

a. 1st record, 1597: Gravesend, Erith.

1282. **P. coronopus,** L. 6—9. A or B. Com. on dry sandy heaths, etc.

[*ILLECEBRACEÆ, B. & H.; PARONYCHIACEÆ. This order now forms part of the Caryophyllaceæ.*]

ALLIANCE XXII. RUBIALES.

N.O. 1. *RUBIACEÆ.*

(191) **GALIUM,** L. (Bedstraw); small fls. with exposed honey; self-fertilisation easy and frequent.

747. **G. cruciata,** Scop. (Crosswort), 5—6, P. Hedges, thickets; com. esp. on the chalk. Complete and unisexual fls. on the same pl. (Darwin).

a. 1st record, 1597: Charlton.

748. **G. verum,** L. (Lady's Bedstraw), 7—8, P. Dry sandy places; common.

a. 1st record, 1629: Chalkdale, near Dartford.

749. **G. erectum,** Huds. (under Mollugo, B. & H.), 6—9, P. Pastures; rare.

1. Plumstead Marshes, behind the old Practice Butts. Dod.
2. Top of Downs, near Otford. Bruce.

750. **G. mollugo,** L. 7—8, P. Hedges, thickets ; abt.

var. b). **insubricum,** Gaud.
1. Shortlands, '99. A. O. Hume

G. mollugo x verum (OCHROLEUCUM, Syme).
1. Holwood Park, Keston, '04. W.H.G.

751. **G. saxatile,** L. 7—8, P. Heaths, where it is com.

753. **G. palustre,** L. 6—7, P. Wet places ; v. com.

var. c). **Witheringii,** Sm. Prob. as freq. as the type.

754. **G. uliginosum,** L. 7—8, P. Wet places ; local and rather rare.
1. Beckenham, Hayes Ford, '97. Sc.
2. Lullingstone, '02. W.H.G.
3. Shooter's Hill, '99. C.H.G.
a. Marshes betw. Greenwich and W'wich, 1836 ; Blackheath and Hanging Wood, Charlton, 1793.
b. 1st record, 1724 : Chislehurst, in the bog.

755. **G. anglicum,** Huds. 6—7, A. Old walls and dry sandy places ; v. rare and local.
1. Eltham, on a wall going to the Court, 1724 (still there, '94, Dod).
2. Old wall Farningham, 1778 (still there, H. & M.).
3. Old wall entering Farningham from Eynsford, '04. W.H.G. (same as 2).
4. Garden walls in Lullingstone Park, '05. W.H.G
a. 1st record, 1724 : Eltham.

757. **G. aparine,** L. (CLEAVERS), 6—8, A. Banks, fields, waste places ; v. abundant.

758. **G. tricorne,** Stokes, 6—9, A. Colonist ? Dry chalky fields ; freq.
1. Swanley, H.
2. Pl. about Cobhambury ; by Cotton Farm, Stone. Dod.
3. Cornfield, Layham's Farm, W. Wickham, '99. W.H.G.
4. Gravel pit nr. Hayes, '04. F.M.R.

(192) **ASPERULA,** L.

759. **A. odorata,** L. (WOODRUFF), 5—6, P. Moist-deep-shade pls. ; freq. Leaves extr. sensitive to light.
1. Roadside bank below Holwood Park, '06. W.H.G.
a. 1st record, 1763 : Charlton Wood.

761. **A. cynanchica,** L. (Quincywort), 6—7, P. Dry banks and cliffs on the chalk ; com.
1. Banks and chalky meadows betw. Keston and Down, '06. W.H.G.
2. Chalk Downs, Eynsford, '06, R.H.C.

762. **A. arvensis,** L. 6, A. Casual. Fields and waste places.
1. A few small pls. in Plum Lane Brickfield, '92. Dod.
a. Old gravel pit, Hayes, one pl. which soon disappeared, '93. Sc.

763. **SHERARDIA arvensis,** L. 5—7, A. Fields ; com. Some pls. are *f.* Fly or self pollinated.

N.O. 2. *CAPRIFOLIACEÆ.*

(186) **SAMBUCUS,** L.

737. **S. nigra,** L. (Elder) 6, D. Tree or bush. Hedges and woods ; v. com. esp. on the chalk. No honey.
var. b). **laciniata,** Lam.
1. Roadside, Blackheath Park. Dod.
2. Brockley, '97. Playfair.

738. **S. ebulus,** L. (Dwarf Elder, Danewort), 8, P. Denizen, said to have been introduced by the Danes. Hedges, etc., us. near ruins ; local.
1. Lane leading from Sutton to Darenth. Dod.
2. Nr. Cooling Castle. M.
3. On a waste nr. Farnborough, c. '92. A.D.W.
a. 1st record, 1597 : nr. Dartford.

(187) **VIBURNUM,** L.

739. **V. opulus,** L. (Guelder Rose) 6—7. Damp pastures and thickets ; com. Nectaries on petioles.

740. **V. lantana,** L. (Wayfaring Tree) 5. Hedges and thickets ; extr. com. on the chalk.
a. 1st record, 1597 : Cobham, Southfleet, Gravesend.

(189) **LONICERA,** L. (Honeysuckle).

742. **L. caprifolium,** L. 5—6, Shrub. Denizen ; thickets ; v. rare. Hawkmoth fl. ; tube even longer than 743.
1. Householders' Wood above Upper Halling, prob. bird sown. Dod.
2. Roadside betw. Keston Mark and Lock's Bottom, '03. W.H.G.
3. Quasi-wild, Holwood Park, 06. W.H.G.

743. **L. periclymenum**, L. (WOODBINE), 6—9, Shrub. Woods and thickets; v. com. Fls. open between 7—8 P.M., when they become sweet-scented: tube more than an inch long, often half filled with nectar; pollinated by hawkmoths.

744. **L. xylosteum,** L. 5, Shrub. Hedges and thickets; native in Sussex.
1. Bank of lane nr. Keston Church, '06. W.H.G. (a new county record, see *J. of Bot.*, '01).

SYMPHORICARPUS racemosus, Mich. (SNOWBERRY), a N. American shrub with large snowy berries, is freq. planted in garden hedges (Eltham).

N.O. 3. *ADOXACEÆ* (*under Caprifoliaceæ, B. & H.*).

736. **ADOXA moschatellina,** L. (MOSCHATEL), 4—5, P. Woods and shady hedges; frequent but local: often found growing in woods with anemone, another case of protective mimicry.
1. Abt. at entrance to the Avenue, Down Court, '06. W.H.G.
2. Lower part of Boarer's Wood, Abbey Wood, '04. R.H.C.
3. Hirst Woods, with anemone, '07. J.F.B.
4. Elmstead Lane, copse, with anemone, '07. J.F.B.

N.O. 4. *VALERIANACEÆ.*

(194) **VALERIANA,** L. (VALERIAN).

764. **V. dioica,** L. 5—7, P. Boggy places; local.
1. Nr. Abbey Wood Stn.; meadows above and below Darenth. Dod.
2. Abt. on railway embankment near Greenhithe. H.
3. Holwood; Hayes Ford, '97. Sc.
4. Meadow on bank of Darenth, Lullingstone, '05. W.H.G.
a. 1st record, 1720: Nr. Woolwich.

765. **V. Mikanii,** Syme, 6—7, P. Bushy places; v. rare.
1. Upper slopes of the dry chalky banks on both sides of the Vale of Cudham, '06. W.H.G.

766. **V. officinalis,** L. (SAMBUCIFOLIA, Will.), 6—7, P. Wet places; frequent.
1. Crofton, nr. Orpington, '06. W.H.G.
a. 1st record, 1629: Erith.

(195) **KENTRANTHUS,** DC. (Centranthus).

768. **K. ruber,** DC. 6—9, P. Alien; chalk pits and old walls. Lepidoptera flowers.
1. Railway bank, Orpington. H.
2. Railway bank and cutting betw. Dartford and Rochester, in profusion. H. and M.
3. Chelsfield. Kennard.
a. 1st record, 1793: Eltham (one pl.), chalk pits, Greenhithe.

769. **K. calcitrapa,** Dufr. Alien. Once grew with Hutchinsia petræa (which see), upon the wall of Eltham Churchyard.

(196) **VALERIANELLA,** Mill.

770. **V. olitoria,** Poll. (Corn Salad), 5—6, A. Fields, hedges; com.
1. Common on footpaths at Avery Hill, '06—'07. L.C.C.
2. Bank on road below S.W. side of Hayes Com., '04. W.H.G.
3. Loc. abt. Gates Green, '97. Sc

773. **V. rimosa,** Bast., 7—8, A. Colonist; cult. fields; v. rare
a. Old records only.

774. **V. dentata,** Poll., 6—7, A. Colonist? Cultiv. fields, banks, etc.,; freq.
1. Cornfield, Keston, '04. W.H.G.
2. Nr. Elmstead Lane and nr. Down., '93. Sc.

N.O. 5. DIPSACEÆ.

(197) **DIPSACUS,** L. (Teasel). Honey flowers.

775. **D. sylvestris,** Huds. 8—9, B. Hedges, roadsides, open copses; v. com.

776. **D. pilosus,** L. 8, B. Moist shady places; freq. but local.
1. Banks of Ravensbourne, Catford Bridge. Britten in *Bot. Chron.* 21.
2. Lullingstone. J. Groves.
3. Ladies' Close Wood, nr. Cliffe. M.
4. W. side of Vale of Cudham, Down, '05. W.H.G.
a. Lane betw. Plumstead and Shooter's Hill, 1793.

D. fullonum, L. (Fuller's Teasel), 8—9, B. Cultivated.
1. Escape, Brickfield, Dartford Heath, '04. R.H.C.

(198) **SCABIOSA,** L. (Scabious).

777. **S. succisa,** L. (Devil's Bit Scabious), 7—10, P. Woods, pastures, open spots in moist woods ; v. com.

778. **S. columbaria,** L. 7—8, P. A chalk plant ; com.
1. Holwood Park and Leaves Green, Keston, '05. W.H.G.
2. Old Chalk pit, Leaves Green, '06. W.H.G.
3. Chalky roadside banks nr. Downe, '07. J.F.B

779. **KNAUTIA arvensis,** Coult. (Scabiosa arvensis, L., B. & H.). 7—9, P. Freq. on the chalk, esp. on the borders of cultiv. fields Many insect visitors ; early in the summer some of the fls. are *f.* only.

ALLIANCE XXIII. CAMPANULATÆ.

N.O. 1. *CUCURBITACEÆ. Chiefly tendril-climbing herbs.*

663. **BRYONIA dioica,** L. (White or Red Briony), 5—9, P. Hedges and bushy places ; common especially on the chalk. Fls. diœcious, the *m.* fl. being about twice as large as the *f.* In Germany the fl. is visited exculsively by the bee Andrena florea (Muller), and it may be so in England ; if so, the range of the pl. is coterminous with that of the bee.

Note.—To this order belong the Cucumber (Cucumis sativus, L), Melon (C. Melo, L.), and pumpkin (Cucurbita pepo, L.).

N.O. 2 *CAMPANULACEÆ.*

1017. **JASIONE montana,** L. 7, B. Dry sandy places ; locally plentiful. Fl. visited by a host of insects.
1. Slopes E. of Plumstead Common. Dod.
2. Railway banks and adjacent field, W. Wickham, '05. F.M.R.
3. Hayes, Bromley, '96. Sc.
4. Hayes gravel-pit, '06 ; in '04 it was very plentiful, but in '05 there was scarcely a pl., though on the bank of a railway cutting about 500 yards distant it was abt. This was probably due to the direction of the wind when the seed was shed ; still abundant there, 1907 ; W.H.G.

a. First record, 1629 : Chalkdale near Dartford.

1018. **WAHLENBERGIA hederacea,** Reich. (Campanula, L. ; Cervicina, Druce), 7—8, P. Boggy places ; very rare. All old records, and prob. now extinct in district.

a. First records, 1793 : Bogs, Hayes, Bromley ; woods, Farnborough, Knockholt, Down and Cudham.

1019. **PHYTEUMA orbiculare,** L. 7, P. Grassy chalk downs ; very rare.
1. This beautiful pl. is abundant on parts of Farthing Downs, Coulsden, Surrey, and the top ridges of adjoining chalk valleys ; but it appears never to have crossed the Upper Ravensbourne Valley to the Kentish side although there are many habitats there suitable to it. W.H.G.
a. N. Downs near Sevenoaks, '77.

(251) **CAMPANULA,** L. Bee fls.

1021. **C. glomerata,** L. Chalk downs ; rare, except in distr. 2.
1. Railway cutting near Lower Birch, Cuxton ; Holborough. Dod.
2. Near Halling. Dod and M.
3. Holly Hill and downs above Birling. Rogers.
4. Three pls. in a chalk meadow valley near Down, '02, but not since. W.H.G.
a. First record, 1597 : Chalk hills about Greenhithe.

1022. **C. trachelium,** L. 7—8, P. Hedges and thickets ; common especially on the chalk.
1. Top part of Keston Common, '01 ; Cudham and Halstead ; Pilgrim's Road, below Wrotham, '05. W.H.G.

Note.—Both in Kent and Surrey this sp. is freq. seen on the old Pilgrims' Way. It is the original "Canterbury Bell," so named because the shape of the fl. resembled that of the small bells carried on standards by the pilgrims on their way to the shrine of the "holy blisful martir," at Canterbury. Perhaps the pilgrims had a superstitous regard for the pl., and introduced its seed along the route.—W.H.G.

2. Old gravel-pits, Dartford Heath, '03. R.H.C.
3. Local, in woods at Orpington, Bromley, and W. Wickham, '96. Sc.

C. medium, L. (Canterbury Bell), only garden escapes.
1. Roadside approach to W. Wickham, R. Stn., '04. W.H.G.

1023. **C. latifolia,** L. 7—8, P. Bushy places, very rare in the South.
a. Cobham (with Trachelium). Ridley.

1024. **C. rapunculoides,** L. 7—8, P. Only garden escapes in Kent.
1. Roadside bank opposite Police Station, Lock's Bottom, well-established, '02. W.H.G.

1025. **C. rotundifolia,** L. (Harebell ; the "Bluebell of Scotland"), 7—8, P. Dry hilly places ; very common.
a. First record, 1629 : Chalkedale, near Dartford.

1027. **C. rapunculus,** L. 7—8, B. Banks and bushy places on sandy soil ; rare and very local.

a. Bexley, Crayford and Dartford, 1746 and 1793.

1028. **C. patula,** L. 7—8, B. Hedges and thickets ; extremely rare.

1. Hayes gravel-pit, '06. W.H.G.

a. First and only other record, 1821 : Growing with C. RAPUNCULUS on a steep bank on roadside from Bexley to Dartford Heath. (Graves).

1029. **LEGOUSIA hybrida,** Del. (C. HYBRIDA, L. ; SPECULARIA HYBRIDA, A. DC.), 6—9, A. Colonist, often found in arable fields after the grain has been carted away.

1. Cuxton, Dod ; Isle of Grain, Jackson.
2. Between Dartford and Greenhithe. H.
3. Cornfield off Down Road, Keston '05. W.H.G.
4. Gravel-pit near Hayes, '04. F.M.R.

a. First record, 1597 : Greenhithe.

NOTE.—Lobelias are garden fls. and are visited by v. few insects.

N.O. 3. *COMPOSITÆ. The largest, most efficient, and most successful family of flowering plants. Where ray and disc florets are differentiated, the ray florets are gen. f. and the disc florets complete, and the flower closes at night, and in bad weather. Honey is secreted and within the reach of all but the shortest tongued insects.*

781. **EUPATORIUM cannabinum,** L. (HEMP AGRIMONY), 8—9, P. Wet places by streams ; rather local. Fls. largely visited by butterflies.

a. Early record, 1724 : By stream between Lee and Eltham (still there).

782. **SOLIDAGO virgaurea,** L. (GOLDEN-ROD), 7—9, P. Woods, thickets, roadside banks ; very common. Many insect visitors.

a. First record, 1597 : Southfleet, Swanscombe Wood.

783. **BELLIS perennis,** L. (DAISY), 3—10, P. Banks, pastures lawns ; very common.

785. **ASTER tripolium,** L. 8—9, P. Muddy salt marshes, ascending the estuaries of the Thames and Medway.

1. Mud banks of Dartford Creek, 03. W.H.G.
2. Shore of Thames, N. Woolwich Gardens, '99. C.H.G.

a. First record, 1597; Gravesend.

A. lævis, L. Alien; a garden throw-out.

1. Wet gravel pit, Ladies' Golf Ground, near Ravensbourne R. Stn., '03. W.H.G.

The China Aster of our gardens is a species of Callistephus.

CALENDULA officinalis, L. (MARIGOLD). Alien.

1. Roadside below W. of Hayes Com., '03; Hayes Gravel pit, '05 (both garden escapes), W.H.G.

(203) **ERIGERON,** L. (FLEABANE).

787. **E. canadensis,** L. 8—9, A. Alien; waste ground; freq. as a garden weed.

1. Eltham, Kidbrook, Dartford. Dod.
2. Woolwich Arsenal and Plumstead. H. & M.
3. Lower Sydenham; Ravensbourne; West Wickham; Chelsfield; Halstead. W.H.G.
4. Monastery Road, Erith, '03. R.H.C.
5. Wickham Lane brickfield, '07. J.F.B. & W.H.G.

a. Erith, '77; First record, 1836: Northfleet.

788. **E. acris,** L. 7—8, A. or B. Frequent on chalky hill sides, less frequent on Lower Eocene gravel.

1. Southend; West slope of Darenth Valley at Shoreham; railway bank, Northfleet. W.H.G.
2. Charlton pits, '03. R.H.C.
3. West Wickham, '05. F.M.R.
4. Waste ground, Eltham, '07. J.F.B.

(204) **FILAGO,** L. (CUDWEED).

790. **F. germanica,** Huds. 7—8, A. Sandy fields and pits; frequent.

1. Moist places, Hayes and Keston Commons, '00. W.H.G.
2. Gravel pit, Boarer's Wood, Abbey Wood, '04. R.H.C.
3. Old gravel pits, Hayes, and Beckenham, '97. Sc.

792. **F. spathulata,** Presl. 7—8, A. Colonist? Dry fields; local on the chalk.

1. Dartford. H.

793. **F. minima,** Fr. 6—9, A. Dry sandy and gravelly places. heaths ; scarce.

1. Dartford Common and Heath. Dod.
2. Bexley. Holmes.
3. With germanica in gravel-pit, Boarer's Wood. R.H.C.
4. Gravel pits, Hayes, '97. Sc.

a. Blackheath, Keston (1836) ; Hayes Common (1877).

796. **ANTENNARIA margaritacea,** Br. (ANAPHALIS, B. & H.). A garden escape.

1. Roadside near Terry's Lodge, above Wrotham, '04. W.H.G.

(207) **GNAPHALIUM,** L. Wind-pollinated flowers.

797. **G. uliginosum,** L. 7—8, A. Wet sandy places ; very com.

799. **G. sylvaticum,** L. 7—9, P. Woods, heaths, rough grassy places ; rather scarce.

1. Gravel pit, Bexley. Holmes.
2. Wood near Swanley. H.
3. Orpington, '94. Sc.

a. About Charlton and Eltham, 1836.

The EDELWEISS of the Alps is G. LEONTOPODIUM (ALPINUM).

803. **INULA vulgaris,** Trev. (CONYZA, DC.), 7—9, P. Freq. on dry banks in the Chalk districts.

(209) **PULICARIA,** Gaertn. (under INULA, B.).

806. **P. dysenterica,** Gray, 8—9, P. Damp places ; common especially in moist, grassy roadsides.

807. **P. prostrata,** Asch. (VULGARIS, Gaertn. ; INULA PULICARIA, L.), 8—9, A. Damp sandy waste places ; rare.

a. Side of Ravensbourne at Lewisham, 1877.
b. Barren ground opposite the "Porcupine" Inn, Mottingham, 1836.

808. **XANTHIUM strumarium,** L. (Anomalous genus, N.O. AMBROSIACEÆ, Link). Alien ; fruits (burrs) so distributed by man, that its place of origin is now doubtful. The pl. has unisexual heads, the *f.* head being reduced to 2 fls. It appears as a casual now and then on waste land.

1. At Crossness for several seasons, but never flow red. Dod.

(211) **BIDENS,** L., 8—9, A.

810. **B. cernua,** L. Wet places; rather scarce, except in the Weald.
1. Nr. Green Farm, Shorne. Dod.
2. Pauls Cray. Reeves.
3. Chislehurst, Bromley Hill, '97. Sc.

811. **B. tripartita,** L. Marshy places; frequent.
1. Frequent along the Ravensbourne and its tributary ditches, '06. W.H.G.
2. Wet gravel-pit near Ravensbourne Railway Station (a form with leaves resembling cernua), '05. W.H.G.
3. Eltham Common, '05. C.H.G.

812. **GALINSOGA parviflora,** Cav. 7—9, A. S. American alien; established in some parts of Surrey as an escape from Kew.
a. Not infrequent as a garden weed in the S.E. Met. suburbs. W.H.G.

(213) **ACHILLEA,** L.

813. **A. millefolium,** L. (Yarrow, Milfoil), 6—8, P. Banks, hedges, waste ground; very common.

814. **A. ptarmica,** L. (Sneezewort), 7—8, P. Borders of moist fields and woods; not uncommon.
1. The Scrubs, Bromley Common; Crofton, '04. W.H.C.
2. Eltham Common, '03. R.H.C. and C.H.G.
3. Keston, etc. Reeves.
a. Shooter's Hill and St. Mary Cray, 1877.
b. First record, 1597: Southfleet.

var. b.) **cartilaginea,** Ledeb. Garden escapes.
1. Roadside, Hayes Lane, '03. W.H.G.

(215) **ANTHEMIS,** L. (Chamomile).

816. **A. tinctoria,** L. Casual; rare.
1. One or two pls. in Hayes Gravel-pit, '96, Sc.; 2 in '06, W.H.G.

817. **A. cotula,** L. 7—9, A. Fields, waste places; common.

818. **A. arvensis,** L. 6—7, A. Colonist; borders of cornfields; frequent.
1. Stone; Shoreham. M.
2. Greenhithe. Dod.
a. Dartford, Sutton, 1877.

819. **A. nobilis,** L. 7—8, P. Heaths, village greens ; rather rare.
1. Dartford Heath. Dod.
2. Hayes, '97. Sc.
a. Chislehurst Common, '77 ; Lewisham Chalkpit, 1836.

(216) **CHRYSANTHEMUM,** L.

820. **C. segetum,** L. 6—8, A. Colonist ; fairly frequent ; chiefly in cornfields.

821. **C. leucanthemum,** L. (Ox-eye or Dog Daisy, Marguerite), 6—8, P. Fields, railways banks ; very common.

Note.—Our autumn flowering Chrysanthemums are cultiv. forms of C. indicum and C. chinense from the Far East.

(217) **MATRICARIA,** L.

822. **M. parthenium,** L. (Chrysanthemum, Pers.), Feverfew. Alien ; hedgebanks and waste ground, of en escapes from cultivation ; scarce.
1. Crossness, Woolwich Arsenal. Dod.
2. Bexley, Holmes ; Gravesend, H.
3. Belvedere Park on rubbish, '03. R.H.C.
4. Roadside nr. Farningham, '04. W.H.G.
a. Charlton chalk-pit, 1836.

823. **M. inodora,** L. 7—8, A. Cultivated and waste land ; very common.

825. **M. chamomilla,** L. 6—7, A. Colonist ; cultivated and waste ground ; common.

827. **TANACETUM vulgare,** L. 8, P. Native, but often an escape ; stream-sides, hedges ; scarce.
1. By Darenth ; above Dartford (escapes). Dod.
2. Plumstead Marshes. Reeves.
3. Widmore and Hayes, '96. W.H.G.
a. By Charlton pit, 1836.

(226) **ARTEMISIA,** L. (Wormwood). Wind or pollen fls., no honey ; chiefly arid desert and steppe plants. "Old Man," or Southernwood, is A. abrotanum.

828. **A. absinthium,** L. 7—8, P. Denizen or escape ; waste ground ; scarce.
1. Waste heaps, Woolwich Arsenal. Dod.
2. On cliff at Cliffe. H.
a. Greenhithe Chalk-pits, 1836.

829. **A. vulgaris,** L. (Mugwort), 8—9, P. Hedges and waste ground ; extremely common.

831. **A. maritima,** L. 8—9, P. Muddy salt marshes ; frequent.
1. Shore at Greenhithe ; Cliffe Creek near Shorne Battery. H.
2. Isle of Grain. Jackson.
3. Side of Thames, below Recreation Ground, Greenhithe, '02. W.H.G.

a. Thames side, Erith, 1877.

var. b.) **gallica.**
1. With type at Cliffe Creek. H.

832. **TUSSILAGO farfara,** L. (Coltsfoot), 3—4, P. Damp pastures, banks, fields and waste places ; very common.

(222) **PETASITES,** Hill.

833. **P. fragrans,** Presl. Alien ; the fls. are lilac and beautifully scented, and should be looked for from the beginning of December to the middle of January.
1. Between Welling and Blendon ; Shooter's Hill ; New Eltham ; Mottingham ; Erith. Dod.
2. Severndroog ; Castle Woods, Eltham, '07. J.F.B.
3. Roadside from West Wickham to Addington, '06. W.H.G.
4. Roadside nr. entrance to Down Court, '06. W.H.G.

834. **P. ovatus,** Hill (vulgaris, Desf. ; officinalis, Mœnch ; Tussilago petasites, L.) Swamps ; frequent. *m.* and *f.* fls., as a rule, on different plants ; in the *m.* fls. the pistil is present, but only to push out the pollen.
1. South Darenth. Dod.
2. Enclosed ground by Watercress beds, Southend, '06. W.H.G.
3. Horton Kirby ; near Farningham Road Railway Station, '03. W.H.G.

837. **DORONICUM plantagineum,** L. Alien, planted in gardens, never wild.
a. In a wood at the back of Shooter's Hill, abundant. 1848.

(224) **SENECIO,** L. A world-wide genus.

838. **S. vulgaris,** L. (Groundsel), 1—12, A. Cultivated and waste ground ; very common. In the Alps the pl. is a perennial ; it has very few insect visitors, and self-fertilisation is the rule.

839. **S. sylvaticus,** L. 7—9, A. Dry sandy heaths, banks, etc.; rather local.
   1. Bexley. Holmes.
   2. Bostall Heath; Darenth Wood. Dod.
   3. Chislehurst; near Abbey Wood. H.
   4. Charlton Sand-pit, '03. C.H.G.
   F. Hayes Common, '97. Sc.
   a. Blackheath, 1724.

840. **S. viscosus,** L. 7—9, A. Native, but often introduced. Waste ground; frequent.
   1. Railway bank, St. John's Station, and on the East London Railway between New Cross and Thames Tunnel. H.
   2. Woolwich Arsenal, Crossness, Mottingham, Dartford Gravel-pit. Dod.
   3. Plumstead, M.; near Shorne, Britton.
   4. Hayes Gravel-pit, '06 (abundant). W.H.G., F.M.R.
   5. Roadsides at Southborough and Bickley, '05. W.H.G.
   6. Marshes near Crossness, '04. C.H.G.
   7. Abbey Wood, '03. Poly B.C.

842. **S. eructifolius,** L. 7—8, P. Chiefly on chalk; frequent.
   1. Waste gravelly places by railway between Crofton and Pett's Wood, '04. W.H.G.
   2. In weedy roads south of Shortlands, '97. Sc.

843. **S. Jacobæa,** L. 7—9, P. Waste ground; very common. Much visited by insects.

844. **S. aquaticus,** Huds. 7—8, P. Marshy places; frequent.
   1. Swampy meadows by Ravensbourne, Southend, '04. W.H.G.
   2. Hayes Ford and Beckenham, '92. Sc.

850. **CARLINA vulgaris,** L. 7—10. Common on dry sandy heaths and on the upper slopes of chalky valleys all over the district.

(226) **ARCTIUM,** L. (BURDOCK), 8, B.

851. **A. lappa,** L. (MAJUS, Bernh.). Banks, roadsides, waste ground; common.

852. **A. nemorosum,** Lej. (B. & H. include all British forms under LAPPA). Copses, waste ground; local.
   1. Woolwich Arsenal. Dod.
   2. Roadside, Crayford, '04. W.H.G.

853. **A. minus,** Bernh. The species so common on roadsides and in waste places.

854. **A. pubens,** Bab. (INTERMEDIUM, Lange). Copses, banks, waste places ; frequent.
1. Near Magpie Bottom, Shoreham. M.
2. Between Strood and Cuxton ; near Higham. H.

(227) **CARDUUS,** L. (including CNICUS, L. and CIRSIUM, Adans.), THISTLE. Many hybrids occur.

855. **C. pycnocephalus,** L. 6—8, A. or B. Dry sandy waste places ; common near the sea ; rare inland.
1. Frequent on the land side of the Thames bank, Stone Marshes and Greenhithe, '03. W.H.G.
a. Darenth Wood, 1877.

856. **C. nutans,** L. (MUSK THISTLE), 5—8, B. Common on chalky hillsides, and in chalk pits.

857. **C. crispus,** L. 7—8, A or B. Hedges, wood borders and waste ground ; common, especially on the chalk.
var. c.) **acanthoides,** L. Less common.
1. Near East Wickham ; Charlton Chalk-pit, with type. Dod teste Linton.
2. Isle of Grain, Jackson ; Shoreham, M.

C. crispus x nutans.
1. Wooded bank near Magpie Bottom, Shoreham. M.

858. **C. lanceolatus,** L. (858—866 under CNICUS, Hooker), 7—8, B. Roadsides, waste ground ; very common.

859. **C. eriophorus,** L. 8, B. Chalk Downs, rare.
1. Chalk-pit at Holwood, c. '92. A.D.W.
a. Stone Chalk-pit, 1836.

860. **C. palustris,** L. 7—8, A. Wet meadows ; very common.

862. **C. pratensis,** Huds. 6—8, P. Wet heaths and boggy meadows, more truly a marsh thistle than 860. Uncommon.
1. Lower end of boggy valley, west side of Keston Common, '06. W.H.G.

865. **C. acaulis,** L. 7—9, P. Abundant on the chalk downs.
1. Side of the Darenth, Shoreham (a stalked and branched form), '03. W.H.G.

var. b.) **caulescens.**
1. Between Dartford and Lane-end ; Lower Halling ; below Cliffe. Dod.

866. **C. arvensis,** Rob. 7, P. Fields and roadsides ; very common. var. d.) **setosus,** Bess. 9, P. A soft downy form without spines ; it has migrated to the South of England since 1886.

1. West of Mottingham. Dod.
2. Roadside, Beckenham, in two places, '97. Sc.
3. Occasionally by side of footpath, bordering Lang's Nursery, near Bellingham Railway Station, '06. W.H.G.

var. **argenteus,** Buch.-White (see Babington's *Manual*). Buchanan White in *Flora of Perthshire*, mentions it as var. argenteus (Vest.). The plant agrees with var. **Vestent** in Reichenbach's *Deutschland Flora*.

1. E. Wickham brickfield, very abundant (NEW COUNTY RECORD), '07. J.F.B., W.H.G. & B. T. Lowne

867. **ONOPORDON acanthium,** L. (COTTON THISTLE ; cultivated in Scotland, not wild ; the national emblem), 8, B. Native in the South of England, but generally a garden escape. Stamens with sensitive filaments.

1. Bexley ; Isle of Grain. Jackson.
2. Border of Darenth Wood ; Halling. Dod.
3. Cliffe Creek. H.
4. Lane by farm at Crofton, '03. W.H.G.
5. On wall in Hayes Village, '97. Playfair.
6. Hayes' Gravel pit, '07. W.H.G.

868. **SILYBUM marianum,** Gaertn. (CARDUUS MARIANUS, L. ; MARIANA LACTEA, Hill), MILK THISTLE, 6—7, B. Alien or denizen ; waste ground ; frequent.

1. Sandy field between Avery Hill and Eltham Park. Dod.
2. Plumstead Marshes. Reeves.
3. Dartford Brent. H.
4. Higham ; below Shornemead Fort. Dod.
5. Road to Green Street Green, Dartford, '05. R.H.C.

It is this Thistle which has spread over the South American pampas.

870. **SERRATULA tinctoria,** L. 8, P. Woods, heaths, grassy places ; rare.

1. Keston Common. Reeves.
2. Woods south of Cliffe. M.
3. Hedgebank by field footpath, Crofton, '04. W.H.G.
4. Near Eltham. J.D.R.

(233) **CENTAUREA,** L. (KNAPWEED). Stamens with sensitive filaments.

872. **C. nigra,** L. 6—9, P. Meadows, pastures, hedges ; very com.
1. Albino form, roadside between Ightham and the N. Downs, '05. W.H.G.

var. b) **decipiens,** Thuill. South of England only ; rare.
1. Marshes at Crossness, Dod (C. NIGRESCENS, Bab.).
2. Slopes about Upper Halling (var. PALLENS, Koch). Dod.

873. **C. scabiosa,** L. 7—9, P. Fields and hedges ; very common, especially on the chalk.

874. **C. cyanus,** L. (CORNFLOWER, BLUEBOTTLE), 6—8, A. Colonist ; frequent as a garden escape near cottages, but rare as a field weed.
1. Field weed on chalky land near Keston Court Farm, '01. W.H.G.
2. Generally found in Hayes Gravel-pit. W.H.G.

877. **C. calcitrapa,** L. 7—8, A. Denizen (?) Waste maritime places ; local.
1. Has been established many years near Northfleet Railway Station, '03. W.H.G.

878. **C. solstitialis,** L. 7—9, A. Fields and waste ground, generally introduced with clover crops ; rare.
1. Orchard by Higham Church. Dod.
2. Between Bexley and Bostall Heaths. Cole.
a. One pl. near Bromley Palace, '83. Playfair.
b. First record, 1778 : Northfleet.

879. **CICHORIUM intybus,** L. (CHICORY, WILD SUCCORY), 7—8, P. Fls. only open in the morning. Waste places ; frequent, especially on the chalk.
1. Roadsides between Swanley Junction and Wilmington, '02. W.H.G.
2. Gravel-pit, Hayes, '05. F.M.R.
3. E. Wickham and Charlton brickfields, 07. J.F.B. & W.H.G.
4. Dartford Heath Brickfield, '04. R.H.C.
5. Darenth to Cobham, '99 ; Darenth, '04. C.H.G.
6. Wellhall Road, Eltham, '07. C.H.G.

C. endivia, L. (ENDIVE), 7—8, P. Grown as a pot-herb.
1. E. Wickham brickfield, several fine plants (escapes from cultivation), '07. J.F.B. & W.H.G.

880. **ARNOSERIS minima,** Link (PUSILLA, G.), 6—8, A. Colonist (?) Dry sandy fields ; very rare.
a. Near Eltham. J.D.R.
b. Bexley, 1843.

881. **LAPSANA communis,** L. 7—8, A. Hedges, fields and waste ground ; very comm n.

882. **PICRIS hieracioides,** L. 7—9, B. Dry banks ; frequent
1. Allotment Gardens, Northfleet, '02. W.H.G.
2. E. Wickham brickfield, '07. J.F.B. & W.H.G.
a. Beckenham, 1877.

var. b.) **arvalis,** Jord.
1. Roadside bank, Cudham, '03. W.H.G.

883. **HELMINTHIA echioides,** G. (PICRIS ECHIOIDES, L.), 7—9, A. Banks, copses, and waste ground ; common on chalk and clay.
a. First record, 1629 : Chalkdale, near Dartford.

(238) **CREPIS,** L.

884. **C. fœtida,** L. 6—7, B. Chalky places ; rare.
1. Near Greenhithe, 1778 ; still there '85 (Linton).
2. Waste ground above Swanscombe Marshes, '03. W.H.G.
a. Northfleet chalk pits, 1746.
b. Chalk pits about Gravesend, 1836.

885. **C. taraxacifolia.** Thuill. 6—7, B. Banks, hedges, waste ground ; abundant, especially on the chalk.
a. First record, 1713 : "Charleton, Greenwich."

886. **C. setosa,** Hall. 7—8, A. Alien ; fields, introduced with seed.
1. Clover field, Swanley. H.

887. **C. capillaris,** Wallr. (VIRENS, L.), 6—9, A. Common everywhere.

var. b). **agrestis,** Waldst. & Kit.
1. E. Wickham brickfield, '07. J.F.B. & W.H.G. (A NEW COUNTY RECORD.)

889. **C. biennis,** L. 6—7, B. Fairly common in chalky places, rare elsewhere.

(239) **HIERACIUM,** L. (HAWKWEED). A very variable genus ; innumerable varieties have been raised to specific rank. In Bab. the number of critical forms described, selected from Mr. F. J. Hanbury's monograph, is 210. To Jordanising there is no end.

892 **H. pilosella,** L. 5—8, P. Dry banks, heaths, pastures, wall tops ; very common. Fls. open 7—3 (Linnæus), leaves roll up in dry weather.

952. **H. murorum,** L. 6—8, P. Shady banks, wood borders ; local ; not recorded in the district ; neither is H. VULGATUM, Fr

975. **H. sciaphilum,** Uech. 6—9, P. Wood borders, banks, walls ; frequent.
1. Bexley. Holmes.
2. Wood near Swanley. H.

var c.). **cucuminatum,** Dahlst.
1. Roadside between Ide Hill and Sundridge, '05. W.H.G. fide Linton (A NEW COUNTY RECORD).

979. **H. rigidum,** Hart. 7—9, P. Banks and woods, probably common, especially on the sand.
1. Swanley, H. ; Shoreham, Darenth Wood, M.
2. Keston Common, '04. W.H.G.

var c). **trichocaulon,** Dahlst.
1. Hayes Common, '98. A. O. Hume.

var. a). **tridentatum,** Fr. (A good species, Linton.)
1. Ide Hill, '05. W.H.G. fide Linton.

994. **H. subaudum,** L. (BOREALE, Fr.), 8—9. P. Hedges, banks, wooded places ; common, especially on the Weald.

var. c). **Hervieri,** Arv. Touvet.
1. Hayes Common, 1898. A. O. Hume.

995. **H. umbellatum,** L. 7—9, P. Banks, borders, heaths, woods ; frequent.

var c). **coronopifolium,** Bernh.
1. Hayes Common, 1898. A. O. Hume.
2. Roadside between Ightham and N. Downs, '05. W.H.G. fide Linton.

997. **HYPOCHÆRIS radicata,** L. 7—8, P. Banks, fields, hedges ; very common.

999. **THRINCIA nudicaulis,** Britten, *J. of Bot.* '07 (HIRTA, Roth., LEONTODON HIRTUS, L.), 6—9, P. Dry banks, waste and cultivated places ; common.

(241) **LEONTODON,** L.

1000. **L. hispidus,** L. 6—9, P. Banks, roadsides, pastures; com.
1. Chalky banks, Down, '03, and Shoreham, '05. W.H.G.

1001. **L. autumnalis,** L. 8. P. Meadows, pastures, waste places; com. Much visited by insects.
1. Gravelly roadside waste, Greenstreet Green, '02. W.H.G.

1002. **TARAXACUM officinale,** Web. 3—10, P. Cultivated and waste ground, hedges; very common. Plants growing in shady places or on a rich soil have alm. undivided leaves. Fls. close at night; many insect visitors. The type is DENS-LEONIS, Desf. (DANDELION).

var. b). **erythrospermum,** Andrz. Dry places.
1. Erith; Belvedere; old walls nr. Dartford; railway bank, Crayford. Dod.
2. Upper slope of Darenth Valley, W. of Shoreham, '06. W.H.G.
3. Dartford Heath. H.

(243) **LACTUCA,** L. (LETTUCE), 7—8, B.

1003. **L. virosa,** L. Dry or waste places, especially near the sea and tidal rivers.
1. Eltham; Northfleet. Jackson.
2. Marshes near Crossness. Dod.
3. Stone, M.; Dartford, Reeves.
4. Waste ground above Swanscombe Marshes, '03. W.H.G.

1004. **L. serriola,** L. (SCARIOLA, L., B. & H.). As 1003. Gen. a damp shade plant, but when growing in dry, sunny places it acts as a compass plant with diurnally orientating leaves.
1. Manor Way and Plumstead Marshes, '94. Dod.
2. Waste ground, Swanscombe Marshes, '03. W.H.G.
3. E. Wickham brickfield, '07. J.F.B. & W.H.G.
a. First record, 1805: sandpit in Charlton Wood.

1005 **L. saligna,** L. Maritime and estuarine Marshes; rare.
1. Between Gravesend and Shornemead, and below the Fort. Dod.
2 Bank of Dartford Creek, '01. W.H.G.
3 Thames Wall, Stone Marshes, '03. W.H.G.

1006. **L. muralis,** G. Damp shady banks, walls, hedges and woods ; frequent.

1. Chalk banks nr. Shoreham, '04. W.H.G.
2. Nr. Old Mill, top of Keston Common, '06. W.H.G.
3. Holwood and Keston, '97. Sc.
4. Greenwich Park, '01. A.D.W.

L. SATIVA is the garden lettuce.

(245) **SONCHUS,** L. (SOWTHISTLE).

1009. **S. oleraceus,** L. 6—8, A. Waste and cultivated ground, hedges ; very common.

1010. **S. asper,** Hill (under 1009, B. & H.) ; as 1009 and as com.

1011. **S. arvensis,** L. 8—9, P. Arable fields, waste places ; very common.

1012. **S. palustris,** L. 7—8, P. Marshes, rare.

1. Reed-bed, Plumstead Marshes H. and M.
2. Among river reeds at Snodland. H.

a. First record, 1666 : in meadow between Greenwich and Woolwich, by the banks of the Thames.

(246) **TRAGOPOGON,** L.

1013. **T. pratense,** L. (GOATSBEARD), 6, B. Banks, meadows, waste ground ; very common. Fls. open from 4—12 a.m. (JOHN-GO-TO-BED-AT-NOON).

The type **genuinum,** in which the involucral bracts equal the florets is rather rare in the district.

1. Banks of Mid-Kent Railway, near level crossing in footpath from Perry Hill, Catford, '07. W.H.G.

var. b.) **minus,** Mill (separate sp. Bab.), the common form.

var c). **grandiflorus,** B., in which the florets exceed the involucres.

1. Formerly reported at Sydenham. W.H.G.
2. Pls. approaching it growing with GENUINUM as above W.H.G.

NOTE.—Among cultivated pls. of this order, not before referred to, we may mention : Helianthus annuus, the Sunflower, H. tuberosus, the Jerusalem artichoke ; Dahlias, Gaillardia, Helichrysum (Everlastings), Cinerarias, Calendula (Marigolds), and Scorzonera.

Section II.—MONOCOTYLEDONS.

ALLIANCE I. MICROSPERMÆ.

N.O. 1. *ORCHIDACEÆ. Moth or butterfly flowers; honey not usually secreted, but the spur has to be drilled for the nectar; curious and sometimes most elaborate adaptations for insect pollination (for details in the different genera see Darwin's "Fertilisation of Orchids"). Plants with mychorrhiza on the roots or rhizome, and so often found growing under those trees which also have a mychorrhiza. Many species which were formerly abundant in the chalk districts are becoming rarer every year through the reckless plucking of the flowers and digging up of the plants. For example, Mr. Griffin in '99 observed* 10 *species of Orchids on Darwin's "Orchid bank," but in '03 not more than* 4. *It is hoped that the publication of this Flora will serve to preserve this beautiful race of plants, and not lead to their further destruction. To prevent rare species from being taken for botanical specimens or plucked for bouquets Mr. Griffin advises the pinching off of the wings and the labellum, wherever they are seen. Orchids are almost absent from District* 1.

1430. **NEOTTIA nidus-avis,** R. (Bird's Nest Orchid), 6, P. Brown leafless saprophytes with mychorrhiza; shady woods and copses, chiefly under beech, yew, and hazel; freq. esp. on the chalk; locally frequent in district 2.

1. Beech woods between Down and Cudham, '05. W.H.G.
2. Plentiful in Viner's Wood and near Cudham. A.D.W.
3. Roadside bank by Holwood Park, '06. J.F.B.

a. Charlton Wood, 1762.

1432. **LISTERA ovata,** Br. (Twayblade), 5—6, P. Frequent by margins of woods in most parts of the district. Honey secreted (Rendle).

1. Under beech trees near the public footway through Holwood Park. W.H.G.
2. Under beech trees, woods near Bexley, '06. L.C.C.

1433. **SPIRANTHES spiralis,** Koch. (AUTUMNALIS, R.), LADY'S TRESSES, 8—9, P. Downs, chalk-pits, old pastures; freq.

1. Until '03 plentiful in meadow opposite the "Fox," Keston, now being covered with cottages and gardens. W.H.G.
2. "Prof. F. Darwin told me that in his youth he found it in the meadows at Lullingstone." W.H.G.

a. Sandpits between Greenwich and Woolwich, Dartford Heath, 1836.

(400) **CEPHALANTHERA,** R. A degraded Epipactis (Darwin); pollen germinates in situ, fertilising its own stigma. (Darwin, Orchids, p. 80).

1439. **C. longifolia,** Fritsch, 1888 (ENSIFOLIA, R.), 5—6, P. Woods on the chalk; very rare; probably extinct in the district.

a. Fakeham (Falkham ?) Wood, 1821. Graves.

1440. **C. grandiflora,** Gray (PALLENS, R.), 6, P. Woods on the chalk; frequent in district 2.

1. Coppices between Down and Farnborough, '02. W.H.G.
2. Beech wood, Polhill, '03. W.H.G.
3. Meenfield Wood, near Shoreham, '05. W.H.G.
4. Pretty frequent at Farnborough, '94. Spooner.
5. Cudham, '95. Kennard.
6. Wood in chalk-pit, Lullingstone, '06. R.H.C.
7. Near Lodge, Holwood Park, '06. L.C.C.

a. First record, 1671: near Greenhithe.

(401). **EPIPACTIS,** Adans.

1441. **E. latifolia,** All. 7—8, P. Frequent in woods on the chalk which have recently been cleared of undergrowth. Wasp flower (Darwin), but really very few insect visitors.

1. Meenfield Wood, near Shoreham, '02. W.H.G.
[2. Down, Darwin (still there, H. & M.); probably extinct, '07. W.H.G.
3. Woods between Shorne and Cobham. Dod.

a. First record, 1597: Southfleet.

1442. **E. media,** Fries. 8, P. Woods; fairly frequent.

1. Woods S. of Knockholt Beeches. Cole.
2. Woods on the Downs near Trottescliffe. M.
3. Woods above Halling. Dod and M.
4. Wood near Skid Hill between the Salt Box, Westerham Road, Cudham and Fairchild, '03. W.H.G.

1443. **E. violacea,** Bor. 8—9, P. Woods ; rare.

1. Two or three stools appeared in a wood among the meadows, half a mile to the E. of the Salt Box, Cudham, '03-'09, but in '06 the accumulation of undergrowth prevented the plants from appearing. W.H.G.
2. Crookhorn Woods, above Ryarsh. Rogers.

1445. **E. longifolia,** All. (PALUSTRIS, Crantz), 6—7, P. Boggy places, usually among bushes or long herbage ; local ; for our districts old records only :—

a. Near Bexley, 1821. Graves.
b. In the old chalk-pits by the White House in the road from Eltham to N. Cray, 1724.
c. First and earliest British record, 1655 : St. Mary Cray.

(402) **ORCHIS,** L.

1446. **O. hircina,** Crantz, (LIZARD O.), 5, P. Copses and bushy banks on the chalk, now almost extinct, and certainly extinct in the localities mentioned below.

a. Quarry at Greenhithe, 1879.
b. Between Crayford and Dartford, 1641.
c. Hollow Dean Field, Sutton, 1809.

1447. **O. pyramidalis,** L. 7, P. Fairly frequent on dry chalk banks ; Lepidoptera flowers.

1. Down, '92. Kennard.
2. High Elms. Playfair.
3. Downs at Eynsford, '06. R.H.C.
4. Upper slopes on both sides of the Vale of Cudham, and of the chalk valley between Down and Keston, '06. W.H.G.

a. Charlton chalk-pit, 1836.
b. First record, 1746 : near Dartford.

1448. **O. ustulata,** L. 6, P. Chalk downs ; rare ; probably extinct in our district.

a. Dartford Brent, 1821. Graves.
b. Here and there on the chalk between Knockholt and Wrotham, 1845.

1449. **O. purpurea,** Huds. (under MILITARIS, B.), 5, P. Chalky bushy hills in Kent ; rather rare.

1. Woods near Upper Halling, Crookham Wood. Dod.
2. Downs above Paddlesworth, near Snodland. H.
3. Otford. Holmes.

a. Gad's Hill, 1666 ; Northfleet, 1724.

1452. **O. morio,** L. 5—6, P. Moist meadows and pastures ; com.

1. Orpington, pretty frequent, '96. Sc.
2. Ash, '06. L.C.C.
3. Frequent in moist meadows about Down and in rough grass land given up to game about Crofton, '06. W.H.G.

1453. **O. mascula,** L. (Early Purple O.), 5, P. Woods, meadows and pastures ; very common and where found, very abundant. The pls. found in W. Kent are very small compared with those found near Hawkhurst in the Weald.

1455. **O. incarnata,** L. 6—7, P. Marshes ; rare.

1. Frequent in the meadows by the Darenth above Eynsford and Lullingstone, '04. W.H.G.

1456. **O. latifolia,** L. (Marsh Orchid), 5—7, P. Moist meadows and swamps ; scarce.

1. Eynsford. H.
2. Meadows about Darenth. Dod.
3. Damp meadows between Cudham and Brasted, '05. W.H.G.

a. Meadow towards Grove Park, c. '83. Playfair.
b. First record, 1597 ; Swanscombe Wood.

1457. **O. maculata,** L. 5—6, P. Damp woods and pastures ; com.

1. Frequent on chalk banks about Down and Cudham, '06. W.H.G.
2. With white fls. on slopes of Upper Ravensbourne Valley, near Westerham Hill, '04. W.H.G.
3. A very dwarfed white-flowered form (a variety ?) in boggy valley, N.W. side of Keston Common, '06. W.H.G.

a. First record, 1597 : Swanscombe Wood.

1458. **ACERAS anthropophora,** Br. (Man O.), 6, P. Dry chalky places ; freq.

1. On sides of White Hill above Shoreham Railway Station, '04. W.H.G.
2. At foot of slopes near the quarry and lime-kiln, Polhill, '05. W.H.G.
3. Chalk quarry beyond Eynsford, '06. R.H.C.

a. First record, 1724 : Greenhithe and Northfleet.

(404) **OPHRYS,** L.

1459. **O. apifera,** Huds. (Bee Orchid), 6—7, P. One of the few self-fertilising orchids (see Cephalanthera); the pollinia are very weak and bend over so as to touch the stigma, almost as soon as the flower opens (Darwin). On the chalk; frequent.

1. Charlton chalk pit, 4 plants, '94. Dod.
2. Above chalk quarry, Eynsford (with Man Orchid), '06. R.H.C.
3. On upper slopes of both sides of the Vale of Cudham, '06. W.H.G.
4. Meadows between Cudham and Brasted, '06. W.H.G.
5. Formerly abundant but now rare on banks of the "Greenhill" meadows, near Down. W.H.G.
6. A dwarfed form about 3 ins. high with never more than 4 fls. was once pl. in the meadow at Crofton which is used as a gipsy encampment in the fruit picking season. The soil is the basement of the London Clay, rendered calcareous by chalky hill-wash from Orpington. In this meadow of seven acres I have seen Ophrys apifera, Orchis maculata, latifolia, mascula, Blackstonia perfoliata, and Ophioglossum vulgatum, a singularly mixed flora. Most of these have disappeared during the last five or six years. W.H.G.

a. First record, 1597: Greenhithe.

O. apifera × aranifera (?)

1. Magpie Bottom, near Shoreham, '98. Bruce.

1461. **O. sphegodes,** Miller (aranifera, Huds.), Spider Orchid, 4—5, P. Chalky places; rare.

1. At foot of the Downs above Paddlesworth, near Snodland. H.

a. First record, 1670: Northfleet.

1462. **O. muscifera,** Huds. (Fly Orchid), 5—6, P. Woods and thickets on and near the chalk; frequent in district 2.

1. Fairly pl. on borders of woods between Cudham and Brasted, '06. W.H.G.
2. Formerly pl., but now rare on borders of woods, on the Down side of the Vale of Cudham. W.H.G.

a. Dry chalky ground between Eltham and N. Cray, 1724.

b. First record, 1597: hills near Greenhithe.

1463. **HERMINIUM monorchis,** Br. (Musk Orchid), 6—7, P. Grassy banks and downs on the chalk; rare. Probably a moth flower; no honey, but sweet scented at night; G. Darwin and Mueller, however, found it visited during the day by ichneumons and small beetles, which carried away the pollinia.

1. About the foot of Darwin's bank, near Down, '06. W.H.G.
2. Fairly pl. in lower part of Chevening Park, '06. W.H.G.
3. Chalk pit, Morant's Court Hill. Reeves.
4. W. of Otford. M.

a. First record, 1666: Gad's Hill.

1464. **GYMNADENIA conopsea,** Br. (Habenaria, B. & H.), Scented O. 6—7, P. Chalky downs, banks, pits, rarely in marshy places; common in district 2. There are two forms of fls.: 1). Red fls., butterfly-pollinated, and 2). white fls., moth-pollinated.

1. Darwin's Orchid bank, '06. W.H.G.
2. Bank below E. side of Polhill, '05. W.H.G.

a. Bogs and old pastures between Northfleet and the Thames, 1666.

(406) **HABENARIA,** Willd.

1468. **H. bifolia,** Br. 6—7, P. Heaths, copses, singularly rare in the district. Moth fls., sweet-scented in the evening.

1. Copse above Halling. M. and Dod.
2. Otford, abundant. Holmes.
3. Downs above Paddlesworth, near Snodland. H.

1469. **H. montana,** D. & S. (under bifolia as chloroleuca, Rid., B. & H.), 5—6, P. Common in recently cut woods on a moist calcareous soil.

1. Woods and chalky hillsides between Cudham and Brasted, '06. W.H.G.

a. Charlton Wood, 1763.

b. First record, 1597: Southfleet.

ALLIANCE II. SCITAMINEÆ.

Four Natural Orders are included in this alliance, of which, however, we have no representatives. They form a remarkable

group of plants, due to a curious reduction in the androecium and the irregularity of the flower. In the Winter Gardens, Avery Hill, three out of the four orders are represented :—

MUSACEÆ ; **Musa paradisiaca,** the Banana, and **Strelitzia.**

ZINZIBERACEÆ : **Hedychium.**

CANNACEÆ : **Canna indica,** the most irregular fl. in existence, commonly cultivated in parks and gardens.

ALLIANCE III. LILIIFLORÆ.

N.O. 1. *IRIDACEÆ.*

(408) **IRIS,** L. (Bee Flowers).

1471. **I. fœtidissima,** L. 5—7, P. Rough banks and bushy places ; common on the chalk.

a. Charlton Wood, 1763 ; wood between Eltham and Chislehurst, 1793.

1472. **I. pseudacorus,** L. 6—7, P. In wet places, but now rare in the district.

1. In the Ravensbourne, nr. Southend, but not seen there since '04. W.H.G.

2. South Darenth, '05. W.H.G.

a. First record, 1629 : Erith.

Note.—The Blue or White Garden Flag is Iris germanica. The Gladiolus (humble bee flowers) and the Crocus (butterfly flowers with the tube more than half filled with nectar) are cultivated.

N.O. 2. *DIOSCOREACEÆ.*

1489. **TAMUS communis,** L. (Black Briony), 5—6, P. Hedges and thickets ; very common on the chalk. A dicecious climbing plant, hibernating by tubers ; the growing shoot revolves once in 2—3 hours (Darwin).

N.O. 3. *AMARYLLIDACEÆ.*

(413) **NARCISSUS,** L.

1481. **N. pseudonarcissus,** L. (DAFFODIL), 3—4, P. Open woods and pastures; locally abundant especially on clay.
1. Eltham. H.
2. Christ's Hospital Woods, Abbey Wood, '03. R.H.C.
3. Wood, Federation Road, Abbey Wood, '07. W. T. Davis.
4. W. of Cobham Park; avenue at Puddledock. Dod.
a. In the wilderness, Greenwich Park, 1836.
b. First record, 1724: Charlton Wood and about Greenwich.

1484. **N. biflorus,** Curt. 4—5, P. Alien or denizen; pastures, etc.; rare.
1. In a rabbit warren near Shorne, 1795; still there, with double fls., '92, Dod.

1485. **N. poeticus,** L. 5, P. Alien.
1. In a rabbit warren, near Shorne, 1795; still there, with double flowers, '92. Dod.

1486. **GALANTHUS nivalis,** L. (SNOWDROP), 2—3, P. Alien; established in meadows and copses; not common.
1. Avenue at Cobham, very abundant. Dod.

1487. **LEUCOJUM æstivum,** L. (SNOWFLAKE), 5, P. Denizen? Wet meadows; very rare.
1. Plumstead Marshes, near Thames, '88. Reeves.
a. First record, 1785: Thames bank between Greenwich and Woolwich (extinct).

NOTE.—To this order also belong Narcissus Jonquilla, the Jonquil, and the Agaves from the deserts of Mexico. The American Aloe (Agave americana, L.) blooms only once (sometimes not before it is 100 years old), producing an enormous inflorescence which may reach a height of 20 feet, and then dies. It is met with in parks and gardens.

N.O. 4. *LILIACEÆ.*

1490. **RUSCUS aculeatus,** L. (BUTCHER'S BROOM), 3—4. A leafless evergreen shrub; the leaves are phylloclades. Woods and hedges; rather scarce.
1. Paul's Cray Common, '07. C.H.G.
2. Darenth Wood, 1836; still there, H. & M.
3. W. Wickham, Keston, getting scarcer, '97. Sc.
4. Joyden's Wood. Jackson.
5. Abbey Wood. Holmes.
6. Between East Halling and Chelsfield. Dod.
7. Crown Woods, Eltham, '07. L.C.C.
8. W. side of W. Wickham and Hayes Commons, but rarely fruits; the Eocene gravels seem too dry for it. W.H.G.
a. In thickets around Woolwich, common, 1724.

1491. **ASPARAGUS officinalis,** L. Once a native maritime plant, now only garden escapes. The leaves are reduced to minute scales, in the axils of which are borne bunches of leafless green shoots. The young etiolated shoots are eaten as a vegetable.

a. Near Greenwich, Syme's Botany, 1863 (extinct).

b. First record, 1724 : Gravesend (extinct).

(419) **POLYGONATUM,** Mill. (Bee Flowers).

1493. **P. multiflorum,** All. (Solomon's Seal), 5, P. Woods and thickets ; very rare, but commonly cultivated.

1. Good colony on Cator Estate, Bromley, but diminishing, '97, Sc ; '04, W.H.G. (probably introduced).

a. Abundant with officinale in Joyden's and other woods near Bexley, 1821. Graves.

b. First record, 1597 : Crayford, on Rough or Rowe Hill.

1494. **P. officinale,** All. 5, P. Woods ; very rare.

a. Only one record, 1821, as above.

1496. **CONVALLARIA majalis,** L. (Lily of the Valley), 5, P. Woods ; locally abundant.

1. Darenth Wood, '01. W.H.G.
2. W. end of Abbey Wood. Dod.
3. Bostal Woods. Cole.

a. Joyden's Wood, 1836.

b. Heaths between Shooter's Hill and Woolwich, 1724.

(423) **ALLIUM,** L. (Garlic). Some species bear bulbils instead of flowers and in some cases all the flowers may be transformed into bulbils.

1501. **A. vineale,** L. 7, P. Waste ground and dry fields, chiefly occurring as var. c).

var. b.) **bulbiferum,** Syme.

1. Hedge on S. side of Woolwich Cemetery. Dod.
2. Lane by Dartford Brent. H.
3. Hayes Common, '06. W.H.G.

var. c.) **compactum,** Thuill., the common form.

1. Dartford Heath, etc. Dod.

a. Thames Wall, 1877 ; Charlton, 1813.

b. First record, 1629 : Saltmarsh below Dartford.

1508. **A. ursinum,** L 5—6, P. Damp woods and hedges ; locally abundant. Leaves reversed by twisting.

1. By river below Darenth. Dod.
2. Boarer's Wood, Abbey Wood, '04. R.H.C.

a. Chislehurst ; Sydenham (enclosed wood, now built over). M. Chislehurst, '07. Rudolf Beer.

b. First record, 1763 : Stroud (Strood).

A. cepa, L. (Persia), the onion.

A. schœnoprasum, L., chives.

A. porrum, L., leek

A. ascalonicum, shallot.

A. sativum, cultivated garlic.

1510. **SCILLA autumnalis,** L. 8, P. Dry pastures and gravelly places ; very rare.

1. Blackheath, 1696 ; still there, '84, Reeves (but it never flowers).

a Lane between Plumstead and Shooter's Hill, 1793.

b. Green between Lee and Eltham, 1836.

c. Abundant near Shorne Warren, 1829.

1512. **ENDYMION non-scriptum,** Garcke (NUTANS, Dum. ; SCILLA NUTANS, Sm. ; FESTALIS, Sal.), WILD HYACINTH, BLUEBELL, 5, P. Woods and thickets ; extremely common. The white-flowered form is abundant in coppices, &c., on North Downs above Otford. W.H.G.

a. First record, 1597 : fields and woods near "Gravesend."

(426) **ORNITHOGALUM,** L. (STAR OF BETHLEHEM).

1513. **O. nutans,** L. Alien ; escapes or planted ; very rare

1514. **O. umbellatum,** L. 5, P. Alien, established here and there in pastures and copses ; rare.

1. Upper slope of Ravensbourne Valley, Westerham Road, Cudham, '01, but not seen since. W.H.G.
2. Meadow at Hawley, near Darenth, a few plants. Dod.

a. First record, 1836 : waste field near Charlton Church.

1518. **FRITILLARIA meleagris,** L. 5, P. Denizen (?) in damp meadows and pastures ; very rare.

a. First record, 1782 : near Bromley.

1519. **TULIPA sylvestris,** L. (Wild Tulip), 4—5, P. An Asiatic steppe plant, found as an escape sometimes in pastures. A pollen flower.

a. Mr. B. Harrison, of Ightham, has plants in his garden descended from plants found by him in a wood at Ash about thirty years ago. W.H.G.

1520. **GAGEA lutea,** Gawler (fascicularis, Sals.), 3—4, P. Woods and thickets ; very rare.

a. West Coombe Park, 1836.
b. Dartford, Masters.

1522. **COLCHICUM autumnale,** L. (Autumn Crocus), 9—10, P. Meadows ; very rare.

a. First record only, 1836 : Fields between Shooter's Hill and Plumstead Common.

1523. **NARTHECIUM ossifragum,** Huds. (Bog Asphodel), 6—7, P. Turfy bogs, rare in our districts.

1. Abundant in bog below Mill, Keston Common, '06. W.H.G.

a. First record, 1746 : bogs near Cæsar's Camp, Bromley.

1525. **PARIS quadrifolia,** L. (Herb Paris), 5, P. Damp shade plants. Fly pollinated, the flies being attracted by the mock nectaries and the fœtid smell.

1. Wood at Crofton, '06. W.H.G. An error has crept into the floras and text-books in regard to this plant. The leaves are most frequently four, but 3, 5, 6, 7, and 8-leaved forms occur. It is erroneously stated that when the leaves vary from four, the parts of the flower also vary. Out of more than 200 variously leaved plants examined, only one variation in the parts of the flower was observed, and that was an additional sepal in an 8-leaved plant. The 3-leaved form does not produce flowers. W.H.G.

Note.—To this Order belong the Aloes (South African dry-steppe plants), Yucca (for details of its unique pollination, see Willis's "Flowering plants and Ferns," or Rendle's "Flowering Plants," vol. 1), and Dracæna, all of which increase their stems by an anomalous secondary thickening. Many others are cultivated :—Smilax (a shrubby climber), various species of Lilium, Trillium, Funkia, Gloriosa superba (a beautiful greenhouse plant), and Phormium tenax (New Zealand Flax). Aspidistra, the well-known pot plant is pollinated by small terrestrial insects, and possibly by slugs. All these plants may be found at Avery Hill.

N.O. 5. JUNCACEÆ. Protogynous wind flowers, generally found in cold or damp situations.

436) **JUNCUS,** L. Flowering period, 6—8, most 7. All P.

1526. **J. bufonius,** L. Damp ground ; very common.
var. b.) **fasciculatus,** Koch.
1. Top of Bromley Park, near entrance from Bromley Hill, '04. W.H.G.

1528. **J. squarrosus,** L. Wet moors and heaths ; common on hill pastures, where it is often eaten by sheep when grass is scarce.
1. Keston Common, Reeves ; '04. W.H.G.

1529. **J. compressus,** Jacq. Marshy ground ; rare.
a. A few doubtful records.

1530. **J. Gerardi,** Lois. (under COMPRESSUS, B. & H.). Maritime and submaritime marshes ; common.
1. Plumstead Marshes. Reeves.
2. Isle of Grain. Jackson.
3. Higham and Colling Marshes. H. and M.
a. Thames bank near Erith, 1877.

1534. **J. inflexus,** L. (GLAUCUS, Ehrh.). Marshes, wet pastures ; very common on clay and alluvium.

1535. **J. effusus,** L. (under COMMUNIS, B.). Marshy ground ; common especially in the Weald.

1536. **J. conglomeratus,** L. (under COMMUNIS, B., or EFFUSUS, H.), COMMON RUSH. Marshy ground ; very common.
1. Keston Common, '06. W.H.G.
a. First record, 1666 : Shooter's Hill.

1537. **J. maritimus,** Lam. Salt marshes ; frequent.
1. Abundant in marshes below Gravesend and about Shornemead Fort. Dod.
2. Isle of Grain. Jackson.
3. Between Strood and Cuxton ; Higham Marshes. H.
a. Erith, 1877.

1539. **J. bulbosus,** L. (SUPINUS, Mœnch). Swampy places, especially heaths ; locally abundant.
1. Near Port Victoria. M.
a. Chislehurst, Keston, and Blackheath (old records).

1542. **J. articulatus,** L. (LAMPOCARPUS, Ehrh.). Boggy places. common in district 1.

1544. **J. acutiflorus,** Ehrh. (under ARTICULATUS, B. & H.). Boggy places ; frequent.
1. Hayes and Keston, 1877.
2. Grain. M.

(437) **LUZULA,** DC. (WOODRUSH). In Bab. under JUNCOIDES, Adans.

1549. **L. Fosteri,** DC. 5, P. Thickets, hedgebanks ; rather rare.
1. At side of footpath, Crofton Meadows, '03. W.H.G.
2. Roadside bank, Coney Hill, '04. W.H.G.
3. Chislehurst ; woods south of Cliffe. M.
4. Court Wood, Gad's Hill. Dod.
5. Joyden's Wood. Jackson.
6. Darenth Wood ; near Abbey Wood. H. and M.
a. Chislehurst, Hayes, and Keston Commons, 1877.

L. Fosteri x pilosa.
1. Darenth Wood. M.
2. Wood at Puddledock, near Shoreham. Dod.

1550. **L. pilosa,** Willd. (VERNALIS, DC.), 5, P. Thickets ; very common.
a. First record, 1762 : Charlton Wood.

1551. **L. sylvatica,** Gaud. (MAXIMA, DC.), 4—6, P. Sandy places, rather local.
1. Wood between Knockholt and Cudham, '01. W.H.G.
2. Old Park Wood, Plumstead. Dod.
3. Joyden's and Darenth Woods. Reeves.

1554. **L. campestris,** DC. 4—5, P. Heaths, wall-tops, dry grassy places ; very common.

1555. **L. multiflora,** Lej. (ERECTA, Desv.), 6, P. Heaths, copses, sandy banks ; frequent, especially variety **Conjesta,** Lej.
1. Crofton Woods, '01. W.H.G.
2. Chislehurst Common, Reeves ; Keston Common, 1877.

ALLIANCE IV. SPATHIFLORÆ.

N.O. 1. *ARACEÆ (AROIDEÆ, B. & H.), chiefly tropical plants.*

1563. **ARUM maculatum,** L. (CUCKOO PINT, LORDS AND LADIES, ARUM LILY), 4—5, P. Hedges and thickets ; very common. Monœcious, protogynous fly-traps ; the fœtid smell attracts small flies, by which they are pollinated.

1565. **ACORUS calamus,** L. (Sweet Flag), 6—7, P. An alien aquatic, frequently planted. Fl. protogynous with aromatic scent; never ripens its fruit in Europe, perhaps due to the absence of suitable insects.

N.O. 2. *LEMNACEÆ.*

(442) **LEMNA,** L. (Duckweed). Free-swimming leafless aquatics; the flattened-out floating part is stem.

1566. **L. trisulca,** L. 6, A. Common.

1567. **L. minor,** L. 6—7, A. Very common.

1568. **L. gibba,** L. 6—8, A. Frequent.
1. Plumstead Marshes. H.
2. Charlton Marshes; pond at Eltham. Dod.
3. Higham Marshes, Cliffe. Dod.

1569. **L. polyrhiza,** L. Flowers never seen in Britain.
1. Plumstead Marshes. Reeves.
2. Crossness Marshes; pond by E. Wickham Church. Dod.
3. Between Northfleet and Greenhithe. Jackson.
4. Hayes Common, '94, Sc.; '04, F.M.R.
5. Pond in meadow adjoining Farnborough Common, '03. W.H.G.

1570. **WOLFFIA arrhiza,** Wimm. (Michelii, Sch.); the smallest flowering plant in the world; fls. never seen in Europe. Local; no records for our district, but easily overlooked.

ALLIANCE V. PRINCIPES (often united to the Spadicifloræ).

N.O. 1. *PALMACEÆ.* (*Palms.*)

ALLIANCE VI. GLUMIFLORÆ.

N.O. 1. *CYPERACEÆ. Grass-like marsh plants; flowers generally protogynous, wind-pollinated; embryo imbedded in endosperm; in the Grasses it lies outside.*

(458) **ELEOCHARIS,** Br. (under Scirpus, B.).

1623. **E. palustris,** Br. 6, P. Wet places; common, especially on turfy moors.
1. Swanscombe Marshes, '01. W.H.G.

1625. **E. multicaulis,** Sm. 7, P. Marshy places, especially heaths ; rare.

a. Keston and Greenhithe (old records).

(459) **SCIRPUS,** L. (Rushes). Bogs and Marshes.

1626. **S. pauciflorus,** Lightf. 6—8, P. Boggy heaths ; very rare.

1. Keston Common, '04. W.H.G.

1627. **S. cæspitosus,** L. 6—8, P. Ba ren turfy heaths and bogs ; scarce.

1. Keston and St. Mary Cray Commons, 1877.

1629. **S. fluitans,** L. 6—7, P. Ponds, especially on heaths ; local.

1. Keston Common, '00. W.H.G., etc.
2. Ditches in Stone Marshes. M.

a. First record, 1793 : In river Ravensbourne.

1631. **S. setaceus,** L. 7, P Damp ground, heaths ; local.

1. Bexley. Holmes.

a. Darenth Wood, 1863.

b. First record, 1846 : Long bog at Chislehurst, abundant.

1633. **S. lacustris,** L. (Bulrush, used for matting, chairs, etc.), 6—7, P. Ponds and streams ; frequent.

1634. **S. tabernæmontani,** Gmel. Submaritime ponds and marshes ; scarce.

1. Crossness and Northfleet. Dod.
2. Plumstead Marshes. Webb.
3. Swanscombe Marshes, '99. W.H.G.

1638. **S. maritimus,** L. 7, P. Maritime and submaritime marshes ; very common.

1639. **S. sylvaticus,** L. 7, P. Damp woods and marshy places ; rather common in the Weald, scarce elsewhere.

1. Wet meadow, Lullingstone, '02. W.H.G.
2. Stream at the Hollies, Sidcup. Dod.
3. Beckenham. Sc.

a. Charlton Wood, 1800.

1640. **BLYSMUS compressus,** Panz. (Scirpus caricis, Retz.), 6—7. P. Boggy places ; local.

1. Bexley. Holmes.

a. First record, 1688 : Chislehurst.

1644. **ERIOPHORUM polystachion,** L. (ANGUSTIFOLIUM, Roth.). COTTON-GRASS, 5—6, P Bogs ; rather scarce.
1. Abundant in boggy valley, Keston Com., '06. W.H.G.; '97. Sc.
a. Pett's Bog, Chislehurst, 1682 ; Keston Mark, 1836.
b. First record, 1799 : near Deptford.

(465) **CAREX,** L. (SEDGES). Fls. protogynous and wind-pollinated.

1659. **C. divisa,** Huds. 5—6, P. Maritime and submaritime marshes ; common along the Thames estuary.
1. Dartford Marshes, '03. W.H.G.

1660. **C. disticha,** Huds. (under ARENARIA as INTERMEDIA, B.). 5—6, P. Marshy places ; locally plentiful.
1. Hayes Ford, '97. Sc.
2. Meadows above Darenth ; Northfleet water-meadows ; ditches by railway below Crayford. Dod.

1664. **C. paniculata,** L. 6, P. Wet thickets, bogs and marshes ; rather local.
1. Cator Estate, Beckenham, '97. Sc.
2. Stone Marshes. M.
3. Northfleet water-meadows ; thicket above Darenth. Dod.

1665. **C. vulpina,** L. 6, P. Wet places ; common, especially in the Weald.
1. Dartford and Stone Marshes, '03. W.H.G.

1667. **C. muricata,** L. 6, P. Dry hedgebanks, gravelly pastures ; common.

var. b.) **pseudo-divulsa,** Syme. Frequent.
1. Shooter's Hill, East Wickham, Old Park Wood, Chislehurst, Bexley, Darenth and Greenhithe. Dod.

1668. **C. divulsa,** Good. 6, P. Dry banks, roadsides, copses ; frequent.
1. Roadside, Cudham ; by footpath, Holwood Park, '03. W.H.G.
2. Hayes Lane, Beckenham end, '97. Sc.

1669. **C. echinata,** Murr. 5—6, P. Boggy places ; scarce.
1. Keston Common, '04. W.H.G. ; Sc., '96. Reeves.
2. Eltham Common. Dod.
3. Hayes Ford, '96. Sc.

1670. **C. remota,** L. 6, P. Swampy places ; frequent in district 1.

1671. **C. axillaris,** Good. (REMOTA X VULPINA ?), 6, P. Hedgebanks and ditches ; rare.
1. Hedge between Queen's Wood and Blendon, abundant. Dod.

1676. **C. canescens,** L. (CURTA, Good.), 6, P. Bogs ; rare.
1. Sidcup. Holmes.

1677. **C. leporina,** L. (OVALIS, Good.), 7, P. Damp meadows, pastures and heaths ; common, especially on clay.
1. Keston Common, '03. W.H.G.
2. St. Paul's Cray Common. Holmes.
a. Chislehurst Common ; Shooter's Hill, 1877.

1682. **C. acuta,** L. 6, P. Wet places ; locally plentiful.
1. Bank of Ravensbourne, near Southend, '03. W.H.G.
2. Marshes near Abbey Wood Station. Dod.

1687. **C. Goodenowii,** Gay. 5—6, P. Marshes ; frequent.
1. Hayes Ford ; Keston, '97. Sc.

var. b.) **juncella,** Fr.
1. Meadows above Darenth, with type. Dod.

1688. **C. flacca,** Sch. (GLAUCA, Murr.), 6, P. Damp places ; very common, especially on the chalk downs.
1. Keston Common, '03. W.H.G.

1696. **C. pilulifera,** L. 5, P. Heaths, sandy places ; frequent.
1. Chislehurst and Paul's Cray Commons. Holmes.
2. Hayes Common, 1877. De Cr.

1698. **C. caryophyllea,** Lat. (VERNA, Chaix ; PRÆCOX, Jacq.), 4—5. P. Dry places ; common.

1700. **C. pallescens,** L. 6, P. Wet places ; local.
1. Holwood, Keston, Hayes, '97. Sc.

1701. **C. panicea,** L. 6, P. Marshy places ; rather common.
1. Wet meadows, Cudham and Crofton, '03. W.H.G.
2. Hayes Ford, '97. Sc.
a. First record, 1716 : Chislehurst bogs.

1706. **C. pendula,** Huds. 5, P. Damp woods on the clay ; frequent.
1. Border of wood between Cudham and Brasted, '04. W.H.G.

1709. **C. sylvatica,** L. 5, P. Damp woods ; abundant.

1711. **C. binervis,** Sm. 6—7, P. Heaths ; local.
1. Holwood, Keston Common, '97. Sc.
2 Chislehurst Common. Dod.
3. Hayes Common, 1877. De Cr.

1712. **C. distans,** L. 5, P. Maritime and submaritime marshy places ; frequent.

1. Northfleet water-meadows. Dod.
2. Meadows south of Cliffe Railway Station. M.

1716. **C. flava,** L., var. **minor.** 5—6, P. Wet places ; probably frequent.

1. Below Crayford ; Hanging Wood, Charlton. Dod.
2. Keston and Chislehurst Commons, 1877. De Cr.

1718 **C. hirta,** L. 4, P. Wet places ; common.

1. Crofton Woods, '03. W.H.G.

Form **hirtæformis,** Dod.

1. Woolwich Common and near Eltham. Dod.

1719. **C. pseudocyperus,** L. 6, P. Damp places ; frequent.

1. Pond, East of Eltham ; wood near Northumberland Heath. Dod.
2. Stone Marshes, '03. W.H.G.
3. Sundridge Park, '97. Sc.

1720. **C. acutiformis,** Ehrh. 5, P. Wet places ; frequent.

1. Stone Marshes, '03. W.H.G.
2. Plentiful by the Darenth from Eynsford to Farningham. M.
3. About Darenth ; ditches below Crayford ; water-meadows, Northfleet. Dod.

a. First record, 1716 : pond near Eltham.

1721. **C. riparia,** Curt. 5, P. Wet places ; common.

N.O. 2. *GRAMINEÆ. The commonest flowering plants in the World, and economically unrivalled in importance to man and beast. Flowers generally protogynous and wind-pollinated.*

(466) **PANICUM,** L. Aliens or casuals : two species occasionally found :—

P. crus-galli, L. (ECHINOCHLEA, Beauv.), sometimes met with as a cornfield weed, and **P. miliaceum,** L., the Indian Millet or Dhurra, the staple grain of India. Both are grown as ornamental grasses

(467) **SETARIA,** Beauv.

1729. **S. viridis,** Beauv. (PANICUM, L.), 7—8, A. Col. or casual; a harsh grass found occasionally in market gardens and weedy roads.
1. Woolwich Arsenal; Plumstead; Charlton Marshes. Dod.
2. Old gravel-pits at Beckenham and Keston. Sc.
3. Strawberry fields, Dartford. Dod.

1730. **S. glauca,** Beauv. 11, A. Very rare casual.
1. Road near Belvedere Station on imported gravel. Dod.
2. In old gravel-pits, Beckenham and Keston. Sc.
a. Crossness, 1877.

(470) **PHALARIS,** L.

1736. **P. canariensis,** L. (CANARY GRASS), 7, A. Casual on rubbish heaps and waste ground. Seeds used in bird-seed; cultivated in Kent, especially in the Isle of Thanet.
1. Hayes gravel-pit, '03. W.H.G.
2. Brickfield, Dartford Heath, '03. R.H.C.
3. Rubbish heap outside Nursery, near New Eltham, '06. L.C.C.
4. E. Wickham brickfield, '07. J.F.B. & W.H.G.

1738. **P. arundinacea,** L. (DIGRAPHIS, Trin.), 6—7, P. Banks of rivers and ponds common, especially in the Weald.

1739. **ANTHOXANTHUM odoratum,** L. (SWEET VERNAL GRASS), 5—6, P. A very common grass in meadows and pastures; it contains large quantities of coumarin, which contributes most to the scent of new-mown hay, and is probably the cause of hay-fever.

(473) **ALOPECURUS,** L. (FOX-TAIL GRASS).

1742 **A. myosuroides,** Huds. (AGRESTIS, L.), BLACK BENT, 4—11, A. A very troublesome weed in arable fields; frequent.
1. Weedy roads, Beckenham, '96, and occasionally in the fields. Sc.

1743. **A. æqualis,** Sob. (under GENICULATUS as FULVUS, B. & H.), 6—9, P. Wet margins of pools; rare.
1. In three ponds East of Eltham; Middle Park, near Eltham; pond in a wood near Northumberland Heath. Dod.

1744. **A. geniculatus,** L. 6—7, P. Very common in boggy places.
1. Greenhithe, '03. W.H.G.
a. First record, 1793 : Boggy ground in Charlton Wood.

1745. **A. bulbosus,** Gouan, 5—6, P. Salt or brackish marshes ; very rare.
1. Cooling Marshes. M.
a. Thames Marshes below Erith, 1840.

1746. **A. pratensis,** L. 4—6, P. A valuable pasture grass ; abundant in rich meadows and pastures. It produces the lightest of all grass seeds.

1748. **MILIUM effusum,** L. (Millet Grass), 6, P. Frequent in shady woods on the Lower Eocene clays and gravels.
1. Abbey Wood, H. ; Sidcup, Holmes.
2. Shooter's Hill, East Wickham. Dod.
3. Woods at Darenth, and south of Cliffe, near Shoreham. M.

1750. **PHLEUM pratense,** L. (Timothy Grass), 6, P. A very common meadow grass especially on light soils ; it may be pastured for a long time without damage to the hay crop.
var. b.) **nodosum,** L. Frequent, especially near the sea.
1. Cooling Marshes and near Port Victoria. M.
2. Dartford Common, etc. Dod.
3. Hayes Common, '03. W.H.G.

(477) **AGROSTIS,** L. (Bent Grass).

1755. **A. canina,** L. 7—8, P. An elegant grass on peaty or sandy heaths ; frequent on the commons.
1. Blackheath and other places ; very common. Reeves.
2. Hayes and Keston Commons, 1877. De Cr.
a. First record, 1793 : Hanging Wood, Charlton.

1756. **A. alba,** L. (palustris, Huds.), 7, P. A valuable pasture grass (White Bent, Fiorin) ; common in meadows and pastures.
var. b.) **stolonifera,** L. Frequent in damp clayey meadows and pastures.

1757. **A. tenuis,** Sibth. (vulgaris, With.), 7, P. Pastures, downs, heaths and dry places ; common.

1578. **POLYPOGON monspeliensis,** Desf 6—7, A. Submaritime marshes and ditches ; rare and very local.
1. Near Practice Butts, Woolwich Marshes, along with P. littoralis. Elgar (Maidstone Museum).
2. Plumstead Marshes, H. and M.
a. Erith, 1650.

1579. **P. littoralis,** Sm. 6—7, P. Thames marshes; extremely rare, almost extinct.
1. See Elgar's record above (1578).
a. First record, 1804: Plumstead Marshes; Dod failed to find it in '92.

1763. **APERA spica-venti,** Beauv. (AGROSTIS, L.), 6—7, A Colonist; sandy fields; rare.
1. Casual, Plumstead Lane Brickfield. Dod.

1767. **AMMOPHILA arenaria,** Link (ARUNDINACEA, Host.; PSAMMA ARENARIA, Beauv.), 6, P A sand-dune grass like Elymus arenarius, ascending the Thames to the Isle of Grain.

1769. **LAGURUS ovatus,** L. 6—7, A. Alien.
1. In company with Mr B. Harrison, I found a solitary pl. in an old chalk-pit off the Pilgrim's Road, Trottescliffe, probably bird-sown, '99. W.H.G.

(485) **AIRA,** L.

1770. **A. caryophyllea,** L. 5, A. Dry sandy pastures and heaths; rather common.
1. Keston and Chislehurst Commons, '07. L.C.C.
2. Dartford Heath. H.
a. Blackheath, Charlton Wood, Deptford, 1793.
b. First record, 1805: Greenwich.

1771. **A. præcox,** L. 4—5, A. A tiny delicate grass common in dry sandy places; very frequent on the commons and in hedgerows in the Weald.
a. First record. 1785: Blackheath.

1773. **A. cæspitosa** (DESCHAMPSIA, Beauv.), 7, P. A coarse, rough grass growing in tufts; very common in damp woody places, especially on the Weald.
a. First record, 1793: Charlton Wood.

1776. **A. flexuosa,** L. (DESCHAMPSIA, Trin.). 7, P. Abundant on the ommons.
1. Darenth Wood. Reeves.
2. Between Eynsford and Chelsfield. H.
3. Hayes and Keston Commons, 1877.
a. First record, 1793: Blackheath, Charlton Wood.

(488) **HOLCUS,** L.

1777. **H. mollis,** L. 7, P. Thickets and open places on a light soil; very deep-rooted; common.

1778. **H. lanatus,** L. 7, P. A grey downy grass, very common in moist meadows, but of doubtful fodder-value.

1779 **TRISETUM flavescens,** Beauv. (PRATENSE, Pers. ; AVENA FLAVESCENS, L.), 7, P. A good forage grass, common in fields and dry pastures, especially on the chalk.

(490) **AVENA,** L. (OAT-GRASS).

1780. **A. pubescens,** Huds. 6, P. Dry pastures ; frequent on the chalk.
1. Meadows about Middle Park, Eltham. Dod.
2. Meadow banks, Cudham, '03. W.H.G.

1781. **A. pratensis,** L. 6, P. Dry pastures, especially on the chalk ; rather scarce.
1. Chalk hills above St. Clere, Morant's Court Hill. H. and M.

1782. **A. strigosa,** Sch. (under FATUA, B.), 7, A. Generally a corn-field casual.
1. Casual at Shornemead Fort, '92. Dod.

1783. **A. fatua,** L. (WILD OAT), 6—8, A. A frequent colonist on cultivated ground ; the supposed progenitor of the cultivated oat (SATIVA).
1. The vast number of wild oats growing in arable fields and by roadsides have invariably proved to be A. SATIVA, escaped from cultivation W.H.G.
2. The true FATUA, with long brown hairs at base of fl. stalk, E. Wickham Brickfield, '07. J.F.B. and and W.H.G.

1784. **ARRHENATHERUM elatius,** M. and K. (AVENACEUM, Beauv.), FALSE OAT, 6—7, P. Hedgerows, fields ; v. common.
var. b.) **nodosum,** Reich. (BULBOSUM, Lind.).
1. In copse (now cleared) near "Fanny-on-the-Hill," East Wickham, in abundance, '07. J.F.B.
2. Hedgerows between Eltham and Bexley, '07. L.C.C.

1786. **SIEGLINGIA decumbens,** Bern. (TRIODIA, Beauv.), 7, P. Heaths and dry sandy ground ; not uncommon, especially on the commons.
1. Hayes and Keston Commons, 1877.
a. First record, 1793 : Greenwich Park and Blackheath.

1787. **PHRAGMITES communis,** Trin. (ARUNDO PHRAGMITES, L.), COMMON REED, 8, P. Marshes ; common ; a cosmopolitan weed.
1. Belvedere Marshes, '03. R.H.C.

(496) **CYNOSURUS,** L.

1789. **C. cristatus,** L. (Crested Dog's-tail), 8, P. A short close-growing grass with deep roots, and therefore capable of withstanding drought. A common grass in permanent pastures (especially sheep-walks), on downs and in dry hilly districts.

1790. **C. echinatus,** L. Alien.

1. One tuft in Plum Lane Brickfield, '94. Dod.
2. E. Wickham brickfield, '07. J.F.B. & W.H.G.

1791. **KŒLERIA cristata,** Pers. 6—7, P. Dry hilly pastures; common on the chalk, rare on the sand.

1. Hayes Common, 1887; Chislehurst Common, '97. Sc.

1792. **MOLINEA cærulea,** Mœnch, (varia, Sch.), 7—8, P. In moist places on heaths and commons and in peaty copses; locally plentiful. With Triodia decumbens it often forms the entire herbage between stretches of heath and ling.

1. Bexley. Holmes.
2. Chislehurst, 1877.
3. Chalk-pit, Cudham, '03. W.H.G.

a. First record, 1793: Blackheath, by Gravel-pits

1793. **CATABROSA aquatica,** Beauv. 7—8, P. Ponds, etc.; locally common.

1794. **MELICA nutans,** L. (uniflora, Retz.), 5—6, P. Woods and shady banks; very common.

1796. **DACTYLIS glomerata,** L. (Cocksfoot), 6, P. A coarse hardy grass growing in tufts and pervading grass-lands everywhere; a pasture grass much prized by sheep and valuable for hay.

1798. **BRIZA media,** L. (Quaking Grass), 6, P. Common in badly drained meadows and pastures, but of no agricultural value.

1 Frequent on Hayes and Keston Commons and on grassy chalk banks about Down, '06. W.H.G.

(503) **POA,** L. (Meadow Grass).

1800. **P. annua,** L. 3—9, A. Common everywhere, lawns, parks, gardens, paths, etc.

1807. **P. nemoralis,** L. 6—7, P. Woods, thickets and shady places; common in the Weald.

var. **tenella.**

1. Keston Common, '04. W.H.G. fide Hackel.

1808. **P. compressa,** L. 7, P. Dry situations ; not common.
1. Eltham Jackson
2. Tripcock Ness. Dod.
3. One tuft in weedy road, Widmore, '97. Sc.

var. c.) **polynoda,** Parn.
1. Roadside, Farningham, '05. W.H.G.

1810. **P. pratensis,** L. 6—7, P. Abundant in pastures, meadows, fields, banks, lawns and parks ; a constituent of natural turf.

1812. **P. trivialis,** L. 6, P. Sown with other grasses in rich irrigated meadows on stiff soil, growing best in damp shady places ; a constituent of natural turf.

var. d.) **glabra,** Doell.
1. Abundant on dry grassy banks between Port Victoria and Grain. M.
2. Thames side, Greenhithe, '03. W.H.G.

(504) **GLYCERIA,** Br.

1813. **G. fluitans,** Br. (Poa fluitans, L.), 6—9, P. Ponds, etc. ; abundant.

G. fluitans × plicata (G. pedicellata, Towns.), not uncommon, apparently not fertile.
1. Near Cliffe ; between Farningham and Eynsford. H.
2. River Ravensbourne, near Southend, '03. W.H.G.

1814. **G. plicata,** Fr. 6—8, P. Stagnant wanter and wet places ; frequent.
1. Plumstead Marshes ; pond by East Wickham Church ; Hanging Wood, Charlton ; about Dartford. Dod.
2. Between Greenhithe and Northfleet. Jackson.

var. b.) **depauperata,** Crépin.
1. Bed of a pond between Eltham and New Eltham. Dod

1815. **G. aquatica,** Sm. (Poa aquatica, L.), 7, P. Wet places ; rather common, especially in the Weald.
a. First record, 1793 : Ditches between Deptford and London.

SCLEROCHLOA, Beauv. (under Glyceria, H. ; Poa, B.).

1816. **S. maritima,** Lind. 6—7, P. A maritime grass ascending the estuary of the Thames to Gravesend ; a very luxuriant form grows on the alluvial mud about P. Victoria and Grain Fort ; very common.

1817. **S. distans,** Bab. 6—8, P. An estuarine grass reaching Greenwich ; common.

a. First record, 1787 : Around Northfleet.

var. c.) **pseudo-procumbens,** Dod, 1895.

1. Plumstead and Higham Marshes.

1818. **S. Borreri,** Bab. 6—8, P. Estuarine marshes ; locally common.

1. Plumstead Marshes, Syme ; still there.
2. Crossness ; by the canal between Higham and Gravesend. Dod.
3. Isle of Grain. Jackson.

1819. **S. rupestris,** *comb. nov.*, Brit. Mus. Cat. (FESTUCA, SCLEROCHLOA, GLYCERIA, or POA PROCUMBENS), 6—7, A. Estuarine mud plant ; local.

1. Plumstead Marshes, roadsides and ditch banks. Dod.
2. About Shornemead Fort ; by the canal between Higham and Gravesend. Dod.
3. Near Abbey Wood ; Greenhithe and Higham. H.
4. Port Victoria. M.

1820. **S. rigida,** Kunth (F. or G. RIGIDA), 6, A. A minute species growing on walls and in dry places ; very common, especially on the chalk.

1. Old wall at entrance to Farningham Village from Eynsford, '02. W.H.G.

1821. **S. loliacea,** Huds. (ROTTBOELLIOIDES, Kunth), 6—8, A. Sandhills and dry places by the sea ; locally plentiful.

1. Grain Spit, near Port Victoria. M.

(505) **FESTUCA,** L.

1823. **F. ambigua,** Le Gall. 5—6, A. Dry coasts ; rare.

1. Roadside, Skid Hill, between Chelsham and Cudham, '03. W.H.G.

1824. **F. myuros,** L. 6—7, A. Walls and sandy places ; frequent along roadsides.

1. Woolwich Arsenal, abundant. Dod.
2. About Bromley, abundant. Sc.
3. E. Wickham brickfields, abundant on the Thanet sands, '07. J.F.B. & W.H.G.

a. First record, 1760 : Walls in Greenwich Park.

1825. **F. bromoides,** L. (SCIUROIDES, Roth.), 6—7, A. Walls and sandy places ; common.
a. First record, 1793 : With ovina and myuros on Blackheath.

1826. **F. ovina,** L. (SHEEP'S FESCUE), 6, P. Dry hilly pastures, etc. ; very common, especially on the downs ; in the Highlands it forms the main sustenance of sheep.

var. b.) **capillata,** Hackel.
1. Roadside, Polhill, '03. W.H.G.

1827. **F. rubra,** L. 6, P. Found in permanent pastures on loose dry sandy soils ; very abundant.

var. c.) **fallax,** Hackel.
1. Eltham Common, '94. Dod fide Hackel.

1831. **F. elatior,** L. 6—7, P. Damp pastures ; infrequent.

var. c.) **pratensis,** Huds. Far more plentiful than the type ; a nutritious pasture grass.

F. pratensis x Lolium perenne.
1. Meadows by the Darenth, above Eynsford. M.

1832. **F. arundinacea,** Schr. (including ELATIOR, Bab.), 6—7, P. Wet, chiefly maritime situations.
1. Thames Marshes. Dod.
2. Isle of Grain. M.

1833. **F. gigantea,** Vill. (BROMUS GIGANTEUS, L.), 6, P. Moist woods and thickets ; common, especially on stiff soils.
a. First record, 1793 : Charlton Wood.

(506) **BROMUS,** L. Rough grasses, very common, but of no value.

1834. **B. ramosus,** Huds. (ASPER, Murr.), 6, P (?). Damp woods, hedges and thickets ; very common.

1835. **B. erectus,** Huds. 6—7, P. Dry sandy or chalky soil ; frequent on the chalk.

var. b.) **villosus,** Bab.
1. Near Shoreham. M.

1837. **B. tectorum,** L. Casual, introduced.
1. Near the Slade, Plumstead Common, '94. Dod.

B. Schraderi, St. Casual.
1. Crossness, '92; near the Slade; Hervey Road, Kidbrook; near the Gas Works, East Greenwich, '84. Dod.

1839. **B. sterilis,** L. 6, A. Roadsides and waste places; very common.

SERRAFALCUS, Parl. (under BROMUS, B. & H.)

S. patulus, Parl. Casual.
1. Dredged ground, Woolwich Arsenal, '92. Dod.

1840. **S. secalinus,** Bab. 6—7, A. Colonist or casual; fields and waste ground, frequently introduced with clover crops.
1. Eynsford, M.; Swanley, Linton.
2. Cornfield, Hayes, '97. Sc.
3. Plumstead Lane Brickfields (an awnless form). Dod.

var. b.) **velutinus,** Schr.
1. Field near Grain. M.
2. Oatfield, Keston, '04. W.H.G.

1841. **S. racemosus,** Parl. 6, B. Damp pastures; rare (?)
1. Bexley and Gravesend. Holmes.
2. Pastures south of Cliffe; near P. Victoria. M.
3. Meadows below Darenth. Dod fide Hackel.

1842. **S. commutatus,** Bab. 6—7, B. A true native in water meadows; colonist or casual in fields and waste ground; common.

1843. **S. mollis,** Parl. 5—6, A. (?) Fields, roadsides, etc.; most abundant.

var. b.) **glabratus,** Doell. Common, especially in artificial meadows.

var. d.) **interruptus,** Hackel. Colonist (?) Fields; very rare.
1. Near Eltham, '94. Dod (First record).
2. Plentiful in a field of Sainfoin, near Dartford Hospital, '93. Dod.

1844. **S. arvensis,** Godr. 7—8, A. Colonist or casual; fields and waste ground; local.
1. Plumstead Common; Plum Lane Brickfields; Woolwich Arsenal; Charlton Marshes; East Wickham; Dartford Gravel-pit. Dod.
2. Grass-field near Eynsford. M.
3. Roadsides, Polhill and Keston, '04. W.H.G.

(507) **BRACHYPODIUM,** Beauv.

1845. **B. sylvaticum,** R. & S. (GRACILE, Beauv.), 7, P. Woods and hedges ; very common.

1846. **B. pinnatum,** Beauv. 7, P. Dry chalky soil ; frequent.

(508) **LOLIUM,** L. (RYE-GRASS). Very valuable pasture and fodder grasses.

1847. **L. perenne,** L. 6, P. Forms the bulk of most lawn and park grasses ; with Dactylis glomerata, the chief constituent of artificial permanent pastures and meadows cut for hay.

var. c.) **multiflorum,** Lam. A

1. Plum Lane Brickfields. Dod fide Bennett.

var. e.) **italicum,** Braun, B. Sown largely in hay-meadows, but being a biennial must be re-sown every three years.

1849. **L. temulentum,** L. (DARNEL), 6—8, A. Colonist or casual in cultivated fields and hedgerows ; not common. One of the few grasses whose seeds are reputed to be harmful.

1. N. end of Wickham Lane ; Woolwich Arsenal, '93 ; new road, East Plumstead, '94. Dod.

var. b.) **arvense,** With.

1. Woolwich Arsenal, '93. Dod.

(509) **TRITICUM,** L. (AGROPYRON, Gærtn.)

1850. **T. caninum,** L. 7, P. Damp shady woods and hedges ; frequent.

1. Between Greenhithe and Darenth Wood. Dod.
2. Woods, south of Cliffe. M.
3. Locally abundant in wood on Cator Estate, '97. Sc.

a. First record, 1778 : Between Greenwich and Woolwich.

1851. **T. repens,** Beauv. (COUCH-GRASS, TWICH, QUICH, or QUICK) 6, P. Hedges, banks, waste ground ; very abundant and far too common in suburban gardens.

var. b.) **barbatum,** Duval. Very frequent.

var. d.) **dumetorum,** Reich.

1. Thames side, Greenhithe, '03. W.H.G.

1852. **T. pungens,** Pers., 7, P. A maritime and estuarine grass ascending the Thames to Erith.

var. b.) **littorale,** Reich.

1. Stone Marshes, '03. W.H.G.

var. c.) **pycnanthum,** Gren. & Godr.

1. Near Port Victoria. M. fide Bennett.

1853. **T. acutum,** DC. 7—8, P. Coasts and tidal rivers ; frequent (?)

1. Stone Marshes, '02. W.H.G.
2. Isle of Grain. Jackson.
3. Erith, Gravesend, 1877. De Cr.

1854. **T. junceum,** L. 7—8, P. Sandy seashores ; local.

1. Greenhithe, H. ; Grain Spit, Dod.

1855. **LEPTURUS filiformis,** Trin. 7, A. Waste ground by the sea and tidal rivers ; frequent.

var. b.) **incurvatus,** Trin.

1. Thames side, Greenhithe, '02. W.H.G.

1856. **NARDUS stricta,** L. (Mat-grass), 7, P. Heaths and moors ; local.

1. Paul's Cray (De Cr.) and Keston Commons (Reeves).
2. Chislehurst Common. '97, Sc.

a. Dartford Heath, 1746.

(512) **HORDEUM,** L. (Barley-grass).

1858. **H. nodosum,** L. (secalinum, Sch. ; pratense, Huds.), 7, P. Damp low-lying meadows ; abundant in the Weald and the Thames Valley.

1859. **H. murinum,** L. 6—7, B. Dry waste ground, roadsides ; very common.

1860. **H. marinum,** Huds. (maritimum, With.), 6, A. Pastures, banks, and waste ground by the sea ; ascending the Thames to Greenwich.

1. Land side, Thames Wall, Stone Marshes, '01. W.H.G.

H. vulgare, L (SATIVUM, Pers.) is the cultivated Barley. Variety generally cultivated is DISTICHUM, the two-rowed form, but 4-6-rowed barleys are also grown.

var. **hexastichon** (six-rowed form).

1. Wheat field between Down and Keston, '04. This form is interesting, because it was cultivated in the Stone Age ; it frequently occurs as a casual amongst corn crops on the chalk. W.H.G.

NOTE.—The cultivated cereals, some of which have been mentioned, belong to this Order ; others are :—Triticum vulgare (Wheat), Secale cereale (Rye, commonly grown as a green crop in this country), Zea mais (Maize, Indian Corn, or Mealies), and Oryza sativa (Rice) ; Bamboos are woody sometimes arborescent grasses. Wheat is generally self-fertilised, and in some species of Barley the flowers never open. The Sugar-cane (Saccharum officinarum) is tropical.

ALLIANCE VIII. HELOBIEÆ.

N.O. 1. *HYDROCHARITACEÆ. Aquatics.*

1424. **ELODEA canadensis,** Mich. (ANACHARIS ALSINASTRUM, Bab.). Aquatic free-swimming P. The AMERICAN WATER-WEED introduced into Ireland c. 1836, and into England c. 1841, when it rapidly spread over all the inland waters, ousting the native aquatics. The *f.* plant is found in Edinburgh ; elsewhere in this country only the *m.* plant is known. Flowering specimens are seen in the Woking Canal, Surrey, but not often in Kent.

1425. **HYDROCHARIS morsus-ranæ,** L. (FROG-BIT), 7—8, P. A free-floating rootless aquatic ; common. Dicœcious flowers with half-concealed honey.

1. This plant, Sagittaria sagittifolia and Butomus umbellatus were plentiful and wont to flower freely up to '02 in the Marsh ditches between Dartford and Greenhithe, but owing to the numerous factories these aquatics are fast panning out. W.H.G.

VALLISNERIA SPIRALIS, L., an aquatic alien, has been introduced at Avery Hill.

1426. **STRATIOTES aloides,** L. (WATER SOLDIER), 7, P. An aquatic alien or denizen, very rare and probably always introduced (Avery Hill). Dicœcious fls. with half-concealed honey.

N.O. 2. *BUTOMACEÆ* (*under ALISMACEÆ, B. & H.*).

1576. **BUTOMUS umbellatus,** L. (Flowering Rush), 6—7, P. Aquatic ; frequent. Fls. contain honey.
1. In the Darenth, near the bridge, South Darenth, '01. W.H.G.
2. Stone Marshes, '02. W.H.G.
3. Between Greenhithe and Northfleet. Jackson.
4. Higham Marshes. Dod.
5. Greenwich Park. Introduced.
a. First record, 1829 : Erith.

N.O. 3. *ALISMACEÆ.*

(444) **ALISMA,** L. Aquatics with half-concealed honey.

1571. **A. plantago,** L. (Water Plantain), 7—8, P. Common.
1. Wet gravel-pit near Ravensbourne Railway Station, '05. W.H.G.
2. Belvedere Marshes, '03. R.H.C.

1572. **A. ranunculoides,** L. 6—7, P. Turfy bogs, ditches ; scarce.
1. Pool near Northumberland Heath. Dod.
2. Chislehurst Common, 1877 ; Sc., '97.

1574. **SAGITTARIA sagittifolia,** L. 8, P. Aquatic, with trimorphic leaves. The fls. which are monœcious contain honey, and are visited by flies. Scarce in the district.
1. Stone Marshes, near Greenhithe, '02. W.H.G.
2. Plentiful in ponds at Hollydale. A.D.W.
3. Top pond below Cæsar's Pool, Keston Common (introduced), '03. W.H.G.

N.O. 4. *JUNCAGINACEÆ* (*under NAIADACEÆ, B. & H.*).

(449) **TRIGLOCHIN,** L. Protogynous wind-flowers.

1577. **T. palustre,** L. 6—7, P. Marshy places ; not uncommon.
1. Plumstead Marshes (plentiful), Erith Marshes. Reeves.
2. Stone Marshes, '03. W.H.G.
3. Dartford Marshes, '97. Sc.
a. First record, 1836 : Marshes between Greenwich and Woolwich.

1578. **T. maritimum,** L. 7—8, P. Maritime and submaritime marsh-plant ; frequent in the estuary of the Thames.
a. First record, 1836 : Erith.

N.O. 5. *APONOGETONACEÆ* (*under Naiadaceæ, B. & H.*).

APONOGETON distachyum, Th., with curious sweet-scented fls., is in the fountain at Avery Hill, '06. J.F.B. It is an alien aquatic from the Cape.

N.O. 6. *NAIADACEÆ. Now limited to a single genus Naias, not found in our district.*

N.O. 7. *POTAMOGETONACEÆ* (*under NAIADACEÆ, B. & H.*).

(451) **POTAMOGETON,** L. Aquatics with floating or submerged leaves and aerial protogynous wind-pollinated flowers.

1580. **P. natans,** L. 6—7, P. Least modified for a water existence (Schenck). Common.

1581. **P. polygonifolius,** Pourr. (under NATANS, B.). 7, B. Probably not unfrequent.
1. Lower pond, Keston Common, '01. W.H.G.

var. c.) **ericetorum,** Eng. Bot.
1. Bottom of boggy valley, Keston Common, '03. W.H.G.

1590. **P. lucens,** L. 6, P. Rather common, but the records are very old.

1595. **P. perfoliatus,** L. 7, P. Frequent.
1. In the Darenth, near Eynsford, '05. W.H.G.
a. Marshy districts near the Thames, 1877.
b. In the Ravensbourne, near Lewisham, 1793.

1596. **P. crispus,** L. 6, P. Common.
1. Roadside pond near Westerham, '02. W.H.G.
2. Long pond, near Brickfield, Eltham, '06. L.C.C.

var. b.) **serratus,** Huds.
1. Stone Marshes. Dod teste Bennett.

1597. **P. densus,** L. 6—7, P. Not uncommon.
1. Stone Marshes, '03. W.H.G.

1602. **P. pusillus,** L. 6, P. Frequent.
1. Plumstead Marshes. Dod.
2. Between Greenhithe and Northfleet. Jackson.
a. First record, 1793 : In the marshy meadows between Greenwich and Woolwich.

1605. **P. pectinatus,** L. 6—7, P. Apparently not common.

a. The most recent record is 1877, Dartford.
b. In a large pond near Eltham Palace, 1793.
c. In the Cray and Darenth, 1793.

1606. **P. flabellatus,** Bab. (INTERRUPTUS, Kit.), 6—7, B. Frequent.

1. Plumstead Marshes. Reeves.
2. Crossness. Dod teste Bennett.
3. Between Greenhithe and Northfleet. Jackson.
4. Between Strood and Cuxton; Higham Marshes. H.
5. Cooling Marshes; ditches near Port Victoria. M.

(452) **RUPPIA,** L. Salt marsh plants, 7—8, P.

1608. **R. spiralis,** Hart.

1. Isle of Grain. Jackson.
2. Port Victoria. Dod.
3. Cliffe Marshes, '07. L.C.C.

1609. **R. rostellata,** Koch.

1. By Cuxton Railway Station. Reeves.
2. Between Strood and Cuxton. H.
3. Cliffe Marshes, '07. L.C.C
a. Ditch in the flats below Woolwich, 1877.

1610. **ZANNICHELLIA palustris,** L. 5—8, P. or A.

1. Hayes Ford, '97. Scargill.
2. Eynsford. M.

var. a.) **brachystemon,** Gay. Probably common, but little known.

1. Marsh ditches between Stone and Greenhithe. M. teste Bennett.

var. b.) **pedicellata,** Fr. Frequent in maritime and sub-maritime districts.

1. Plumstead Marshes, 1836; still there.
2. Brackish ditches, Crossness. Dod.
3. Ditches near Port Victoria; Cooling Marshes. M.
4. Near Higham. H.
5. Ditch below Shorne Battery. Dod.
6. Between Greenhithe and Northfleet; Isle of Grain. Jackson.

a. Greenwich flats, 1877.

ALLIANCE IX. PANDANALES.

N.O. 1. *TYPHACEÆ.*

(438) **TYPHA,** L. Monœcious wind-pollinated flowers.

1556. **T. latifolia,** L. (Greater Reedmace), 6—7, P. Aquatic; not common in the district.
1. In the Ravensbourne. near Southend, '04. W.H.G.
a. Marsh ditches, Woolwich, 1877.

var. b.) **media,** Syme.
1. In the Ravensbourne, between foot of Bromley Hill and Ravensbourne Railway Station, '02. W.H.G.

1557. **T. angustifolia,** L. (Lesser Reedmace), 6—7, P. Rather common.
1. Marshes between Crossness and Abbey Wood. Dod.
2. Stone Marshes; Isle of Grain. M.
3. Marshes near Shornemead Fort. Dod.
a. In the middle of Woolwich Common, 1787.

N.O. 2. *SPARGANIACEÆ* (*under TYPHACEÆ, B. & H.*).

(439) **SPARGANIUM,** L. (Bur-reed). Monœcious, protogynous wind flowers.

1558. **S. erectum,** L. (ramosum, Huds.), 6—7, P. Ponds, ditches, etc.; very common.
1. In the Ravensbourne and tributary ditches off foot of Bromley Hill, '05. W.H.G.

1559. **S. neglectum,** Beeby. 6—8, P. Wet places; locally common.
1. Wood near Northumberland Heath. Dod.

1560. **S. simplex,** Huds. 6—8, P. Ditches; scarce.
1. Stone Marshes, '02. W.H.G.
2. Keston; much diminished since '03. Sc. '97.

FLOWERING PLANTS.

DIVISION B.—GYMNOSPERMS.

Class 1.—CYCADALES.

Cycas revoluta, Thunb., is in the Winter Gardens at Avery Hill.

Ginkgo biloba, L. (Ginkgoales, Engler), the Maiden-hair Tree of China; Greenwich Park and Avery Hill.

Class 2.—CONIFERÆ.

N.O. 1. *TAXACEÆ.*

1421. **TAXUS baccata,** L. (YEW), 3—4. Woods and downs on the chalk ; common, but generally cultivated.

N.O. 2. *PINACEÆ.*

1419. **JUNIPERUS communis,** L. 5, Shrub. Chalk downs ; common, but generally cultivated.

1422. **PINUS sylvestris,** L. (SCOTCH FIR). Cones pollinated in June, when the air is laden with pollen. It once covered large tracts of land both in Great Britain and Ireland, but as a native it has probably been extinct for ages, having been displaced by other forest trees. It is extensively planted for timber (deal) on sandy soils, but in the neighbourhood of towns the cones do not ripen their seeds ; away from towns where perfect seeds are produced, seedlings are very common.

NOTE.—Cultivated Coniferæ include :—

Araucaria, the Monkey Puzzle ; *Pinus* (P. sylvestris, L. with dwarf shoots bearing 2 needle-leaves, P. tæda, L. bearing 3, and P. strobus, L. the Weymouth Pine, 5) ; *Cedrus*, with evergreen needles arranged in bunches on dwarf shoots and spirally on the long shoots (C. atlantica, Man., from the Atlas Mts., C. deodora, Lond., the Deodar of the Himalayas, and C. libani, Barrel., the Cedar of Lebanon) ; *Larix*, the Larch, with needles as in Cedrus, but deciduous ; *Picea*, with 4-angled or flat leaves on long shoots and pendulous cones (P. excelsa, L., the Spruce-fir) ; *Tsuga*, as Picea, only with flat linear leaves (T. canadensis, Carr., the Hemlock Spruce, and T. Douglasii, Carr., the Douglas Fir) ; *Abies*, with flat linear leaves spirally arranged on long shoots and erect cones (A. pectinata, DC., the Silver-fir) ; *Sequoia*, with linear leaves and cones with seed-scales only, each 5-seeded (S. gigantea, Lindl., the Wellingtonia, second only in size to the Eucalyptus : some specimens are over 300 ft. high ; S. sempervirens, Endl., the Redwood Tree) ; *Cryptomeria*, with dense short upright subulate-leaves and cones with erect ovules and toothed bract-scales (C. japonica, Don, the Japanese Cedar) ; *Taxodium*, the Swamp Cypress, with deciduous leaves and erect ovules ; *Thuja* with small cones having 4 seeding-scales, each 6–8 seeded (T. orientalis, L., Arbor-vitæ) ; *Thujopsis*, as Thuja, but seed-scales 4–5 seeded ; *Cypressus*, the Cypress, with small, decussate adpressed leaves and cones with peltate scales, each many-seeded ; *Juniperus*, with red "berries" (J. communis, L., with short flat leaves in whorls of 3, and J. sabina, L. with adpressed leaves. The horticultural genus *Retinospora*, seedlings of various sp. of Conifers (Thuja, Cypress, Juniper), exhibit during the first year or two of their lives, instead of the adult decussate adpressed type of leaf, the ordinary outstanding needle form, and in their adult state branches sometimes revert to this youth form ; if these seedlings or branches be now "cultivated," the youth or seedling type of leaf will be retained through life. Most of these are found either at Greenwich Park or Avery Hill.

The following books on the *Coniferæ* may be found useful :— (1) Dr. A. B. Rendle's *Classification of Flowering Plants*, Vol. I., 1904 ; (2) *The Kew Hand List of Coniferæ*, 1903 ; (3) Veitch's *Manual of the Coniferæ*, 1900 ; (4) Gordon's *Pinetum*, 1875.

PART II

ARCHEGONIATA.

(Cryptogams).

DIVISION A. PTERIDOPHYTA (Vascular Cryptogams).

Section I.—FILICALES (Ferns).

Except the common Bracken, ferns have become very rare in our district, and many of the rarer kinds have been quite extirpated. A rich collection of ferns, illustrating most of the families, native and exotic, may be seen in the Winter Gardens, Avery Hill.

Class I.—EUSPORANGIATE FERNS.

N.O. 1. *OPHIOGLOSSACEÆ.*

1907. **OPHIOGLOSSUM vulgare,** L. (Adder's Tongue), 5—6. Damp pastures and woods; frequent, especially on stiff soils.

1. Cemetery, Well Hall Road, abundant, '06. Tynemouth.
2. Joyden's Wood, '06. Miss Pearce.
3. Nr. public footpath, Holwood Park, '07. In '05 a spike appeared with 4 spore-bearing stalks. W.H.G.
4. In a fruit-pickers' meadow, Crofton, '04. W.H.G.

1909. **BOTRYCHIUM lunaria,** Sw. (Moonwort), 5—7, Hilly pastures and heaths. Extinct in the district.

a. Blackheath, 1597.
b. Chislehurst Common, 1724.
c. First record, 1570 : Greenwich.

Class II.—LEPTOSPORANGIATE FERNS.

Series I.—Heterosporous Water-Ferns (Hydropterideæ).

None found in Kent, but several sp. representing every genus are cultivated at Avery Hill :—Pilularia, Azolla, Marsilia, Salvinia. Pilularia and Azolla are both found in Surrey, but Azolla must have been introduced.

Series II.—Homosporous Ferns.

N.O. 1. *OSMUNDACEÆ.*

1906. **OSMUNDA regalis,** L. (Royal Fern), 6—8. Boggy heaths and copses, extirpated.
a. Hayes and Keston Commons, 1840.
b. Chislehurst Common, 1787.
c. First record, 1722 : In a bog at the backside of Woolwich near the Warren.

1866. **PTERIS aquilina,** L. (Bracken), 7—8. Heaths, commons, dry banks and woods ; a calcifuge ; very common.

N.O. 2. *POLYPODIACEÆ.*

1868. **BLECHNUM spicant,** With. (Lomaria, Desv.), 7—8. Heath-borders, banks, damp woods on a sandy or peaty soil ; very scarce.
1. Roadside runnels, Ide Hill, '04. W.H.G.
a. First record, 1725 : Shooter's Hill.

1871. **ASPLENIUM adiantum-nigrum,** L. 6—9. Rocks, walls and hedgebanks ; very scarce in our districts, but not uncommon on the Greensand.

1874. **A. trichomanes,** L. 5—10. Walls and rocks ; rare and local ; almost extinct.

1875. **A. ruta-muraria,** L. (Wall-rue), 6—9. Frequent on old walls.
1. Flint walls of alley, near pond, leading to meadow footpath in Down Village, '04. W.H.G.
2. Brick tomb in Cudham Churchyard, '01. W.H.G.
3. Roadside walls between Polhill and Sevenoaks, '04. W.H.G.

1878. **ATHYRIUM filix-fœmina,** Roth. (Asplenium, B. & H.), Lady Fern, 6—7. Damp copses and hedgebanks ; fairly frequent except on the chalk.
a. First record, 1746 : Chislehurst bog.

1881. **CETERACH officinarum,** DC. (Asplenium ceterach, L.), 4—10. Old walls ; local, probably extinct in the district.

1882. **PHYLLITIS scolopendrium,** Newm. (Scolopendrium vulgare, Sm.), Hart's Tongue, 7—8. Damp shady places, probably extinct near London.

1889. **POLYSTICHUM aculeatum,** Schott (ASPIDIUM LOBATUM, Sw.), 7—8. Hedgebanks ; very scarce in Kent.

1890. **P. angulare,** Presl. 7—8. Shady banks and woods ; rare.
a. First record, 1730 : Between Bromley and Chislehurst.

(527) **LASTREA,** Presl. (ASPIDIUM, L. ; NEPHRODIUM, H.).

1893. **L. filix-mas,** Presl. (MALE FERN), 6—7. Woods and banks ; common except near London.
1. Charlton Church Wood, '98. Dod.
2. Wood, Skid Hill between Cudham and Chelsham, '05. W.H.G.

1898. **L. spinulosa,** Presl. 8—9. Marshy places and wet woods ; local.
1. Charlton Church Wood, '98. Dod.

1899. **L. aristata,** *comb. nov.* (DILATATA, Presl.). 8—9. Moist woods and banks ; scarce.

1901. **POLYPODIUM vulgare,** L. (POLYPODY), 8—10. Dry shady banks, walls and old trees ; not com. in Kent.
1. Fifty years ago this pl. was plentiful in lanes about Kidbrook, but like most other ferns, it has now disappeared from the district. W.H.G.

Section II.—LYCOPODIALES.

N.O. 1. *LYCOPODIACEÆ* (*Club-mosses*). *Probably all now extinct in our districts ; last record : Lycopodium inundatum, L. Bog, Keston Common, '84. Reeves.*

Section III.—EQUISETALES.

N.O. 1. *EQUISETACEÆ.* (*Horsetails*).

1910. **EQUISETUM maximum,** Lam. 4, P. Wet places ; not uncommon, especially in the Weald.
1. Ditch, farm-road at the bottom of Crown Lane, Chislehurst (but without sporangia, probably due to luxuriant vegetative reproduction), '06. W.H.G.

1911. **E. arvense,** L. 4. P. Damp fields, roadsides and railway banks ; sterile fronds very common, spore-bearing fronds much less so. Spore-bearing fronds are plentiful in the following stations :—
1. East side of Bromley Hill, '06. W.H.G.
2. Charlton pits, '05. J.F.B
3. Dartford Gravel-pits, '06. J.F.B.

1913. **E. sylvaticum,** L. 4, P. Wet shady places ; rare and local.
a. First record, 1666 : Charlton Wood.

1914. **E. palustre,** L. 6—7, P. Bogs, frequent.
1. Ponds, Keston Common, '05. W.H.G.
2. Northfleet Meadows, '01. W.H.G.

1916. **E. limosum,** L. 6—7, P. In stagnant water ; frequent.
1. Abundant in ornamental pond in private portion of Holwood Park, '01. W.H.G.

DIVISION B.—BRYOPHYTA (Non-vascular Cryptogams).

Section I.—MUSCI (Mosses).

The Mosses have only been partially worked out in the district but it is hoped that the publication of these lists will give an impulse to the study of this interesting group of plants. The majority of the records are taken from various papers by E. M. Holmes, F.L.S., published from time to time in the *Journal of Botany* during the years 1877 and 1901. The classification and nomenclature are those of the second edition of the *Students' Handbook of British Mosses*, by Dixon and Jameson, published in 1904, an indispensable guide to the student of the Moss Flora. The following initials and abbreviations are used :—

H. = E. M. Holmes, F.L.S., of Sevenoaks.
C. = E. J. Cocks, of Bromley Hill.
G. = The late Edward George, of Forest Hill.
T.H. = T. Howse, F.L.S.
W.R.S. = W. R. Sherrin.
J.S. = The Right Hon. Justice Stirling.
J.F.B. = J F. Bevis, B.A., B.Sc.
L.C.C. = L.C.C. Botany Department, Avery Hill.
Vict. Hist. = Victorian History of Kent, now in course of publication.
fr. = fruiting.

The numbers refer to the period of fruiting ; the dates refer to the date of publication of the records. Our thanks are due to Mr. E. M. Holmes for permission to use the records relating to this part of Kent, which he has prepared for the Victorian History of Kent. Though so many of the records are old, it is hoped that they will indicate the range and frequency of the species, and so be of service to future workers.

ALLIANCE I. SPHAGNALES.

N.O. 1. *SPHAGNACEÆ.*

SPHAGNUM, L. (Bog-Mosses), 7. Not frequent in Kent at all because the peaty heaths are generally too dry ; calcipho-bous.

S. acutifolium, Ehrh. Keston Common, '77. G.

var. **rubellum,** Russ. Keston Common, '77. G.

S. cuspidatum, Ehrh. Keston Common, '77. T.H.

var. **falcatum,** Russ. Keston Common, '01. E. C. Horrell.

S. cymbifolium, Ehrh. Keston Common, '77 G.

var. **pallescens,** Warnst. Keston Common, '01. E. C. Horrell.

S. fimbriatum, Wils. Keston Common, '77. T.H.

S. intermedium, Hoffm. Keston Common, '77. T.H.

S. medium, Limpr.

var. **roseum,** Warnst. Keston Common, '01. Horrell.

S. papillosum, Lindb. Keston Common, '77. G.

var. **normale,** Warnst. Keston Common, '01. Horrell.

var. **sublæve,** Warnst. Keston Common, '01. Horrell.

S. rigidum, Schp. Keston Common, '77. T.H.

S. rufescens, Warnst. Keston Common, '01. C

S. squarrosum, Pers. Keston Common, Joyden's Wood, '77. H.

S. subsecundum, Nees. Keston Common, '77, T.H. ; Chislehurst Common, '77. H.

S. tenellum, Ehrh. Keston Common, '77. G.

ALLIANCE II. BRYALES.

Series I.—Acrocarpi.

N.O. 1. *TETRAPHIDACEÆ* (*Georgiaceæ, Engler*).

TETRAPHIS pellucida, Hedw. Sandy soil in woods and peaty places ; on decayed tree-stumps ; 3—9.

1. Abbey Wood, Joyden's Wood (fr.), '77. H.
a. Heaths near Woolwich, 1724.

N.O. 2. *POLYTRICHACEÆ.*

CATHARINEA undulata, W. and M. (ATRICHUM). Moist shady banks in woods ; very common ; winter.

1. Abbey Wood ; Chislehurst, '77. H.

POLYTRICHUM aloides, Hedw. (POGONATUM). Dry banks and heaths ; winter.

a. Blackheath, 1836.

P. commune, L. Woods, heaths, and wet peaty places ; a very tall and handsome moss ; frequent ; 6.

1. Chislehurst, '77. H.
2. Greenhithe, '01. G.

P. formosum, Hedw. Dry woods and shady heathy places ; common ; 6.

1. Dartford. W.R.S.
a. Sydenham Common. Sowerby.

P. juniperinum, Willd. Heaths and dry sandy waste places ; common ; 5—6.

1. Bostall Heath, '77. H.
2. Hayes Common. W.R.S.

N.O. 3. *DICRANACEÆ.*

PLEURIDIUM axillare, Lindb. (NITIDUM). Damp clayey earth in woods ; fallow fields ; sides of pools ; winter ; not uncommon.

1. Near small pond in Joyden's Wood, '77. H.
2. Paul's Cray Common, '01. C.

P. subulatum, Rabenh. (PHASCUM). Sandy heaths and banks ; common ; 4—6.

1. Abbey Wood, '77. H.
2. Keston. W.R.S.

DITRICHUM flexicaule, Hampe. (DIDYMODON, LEPTOTRICHUM). Amongst short grass on chalky banks and in forsaken chalk quarries ; only found in fruit in Perthshire.

1. In an old chalk quarry near Shoreham, very fine and abundant, '77. H.

D. homomallum, Hampe. Wet sandy places ; not common ; autumn.

1. Joyden's Wood, '77. G.

SELIGERIA calcarea, B. & S. (Bryum). Chalk cliffs and quarries; common, 4—5.
1. Greenhithe, '77. G.
2. Down. W.R.S.
a. Dartford. Sowerby.

S. paucifolia, Carruth. (Bryum). On chalk stones, partially embedded in earth; rare; 4—5.
1. In a lane leading from Dartford to Darenth Wood, '77. H.

CERATODON purpureus, Brid. (Mnium). Sandy and peaty soil, heathy waysides, banks in woods, etc.; very common and very abundant; a cosmopolitan sp.; 5.

DICRANELLA heteromalla, Schp. (Bryum). Banks in woods, roadsides, sandy hollows; very common; 11—4.
1. Greenhithe, '77. G.
2. Abbey Wood, Bexley, '77. H.
3. Dartford. W.R.S.
a. About Woolwich, 1724.

D. rufescens, Schp. (Bryum, Anisothecium). Wet clay and bare ground in woods, sometimes found growing with varia; autumn.
1. Spring Park Wood, West Wickham, '01. C.

D. varia, Schp. (Dicranum, Anisothecium). Damp clayey fields, woods, rubble heaps, marly banks, damp spots by roadsides; common; winter.
1. Greenhithe, '77. G.
var. **tenella,** B. & S. Charlton Chalk-pit, '77. H.

DICRANOWEISIA cirrata, Lindb. (Mnium, Weisia). Trees, gateposts, rails and thatch; frequent; 2—3.
1. Keston Common. W.R.S.
2. Ide Hill, on trees, '77. H.

CAMPYLOPUS flexuosus, Brid. (Bryum). Turfy ground in woods, on rocks and subalpine heaths; common; 12—3.
1. Keston Common, in damp places, '77. H.
2. Abbey Wood, on the ground, abundant, '77. H.

C. fragilis, B. & S. (Bryum). Dry turfy banks in woods and on hedgebanks; rare; 12.
1. On decaying alder stumps near the river, Bexley, '77. H. (An unusual situation.)

C. pyriformis, Brid. (Dicranum; C. turfaceus, B. & S.). Heaths, damp sandy or gravelly banks in woods; common; 12.

DICRANUM Bonjeani, De Not. (PALUSTRE, B. & S.). In marshes; shady places on heaths; frequent; summer.
1. Hayes Common. W.R.S.

D. flagellare, Hedw. On decayed stumps of castanea vesca nearly level with the ground; very rare indeed in Britain, where it is always sterile, but frequent on the Continent.
1. Abbey Wood, sparingly; Bostall Wood, more abundant, but only in one spot, 1874. H.

D. majus, Turn. Shady woods in mountainous districts; not unfrequent; 7—8.
1. Abbey Wood; Joyden's Wood, '77. H.

D. montanum, Hedw. Woods and trunks of trees in woods; very rare; sterile in Britain.
1. On stumps of Castanea vesca in Abbey Wood, 1874. H.

D. scoparium, Hedw. (BRYUM). Woods, heaths, shady hedgebanks; very common; 7—8.
1. Greenhithe, G.; Abbey Wood, '77, H.
2. Keston Common. W.R.S.

LEUCOBRYUM glaucum, Schp. (LEUCOBRYACEÆ, Engler). Damp heaths, sandy woods; calciphobous; frequent; 11—3.
1. Abbey Wood, abundant, '77, G.
2. Joyden's Wood, '77. H.

N.O. 4. *FISSIDENTACEÆ.*

FISSIDENS adiantoides, Hedw. Bogs; damp chalk banks and on dripping rocks; frequent; 11—2.
1. Shoreham. W.R.S.

F. bryoides, Hedw. (HYPNUM). Shady clay banks, woods, etc.; common; 2—3.
1. Abbey Wood, '77. H.
2. Forest Hill, '01. G.

F. exilis, Hedw. (F. BLOXAMI, Wils.). Damp bare clayey soil in woods, shady banks; rare; 2—3.
1. Damp clayey bank in a thicket on right side of the road between Keston Common and Down, 1874. Reeves.
2. Pickhurst Green, near Bromley, '01. C.

F. incurvus, Starke. Shady clay banks; frequent; 2—3.
1. Hayes Common, '77. H.

F. taxifolius, Hedw. (HYPNUM). Damp shady banks; open places in woods; frequent, fruiting freely on the chalk; 11—2.
1. Forest Hill, '01. G.

F. viridulus, Wahl. (DICRANUM). Clay banks and shady rocks; frequent; winter.
1. Forest Hill, '01. G.

N.O. 5. GRIMMIACEÆ.

GRIMMIA apocarpa, Hedw. (BRYUM). Stones and walls; frequent; winter.
1. Shoreham, on the base of the trunk of a tree, '77. H.

G. pulvinata, Sm. (BRYUM). Walls, rocks, thatches; very common; 3.
1. Greenhithe, '77. G.

N.O. 6. TORTULACEÆ, (Pottiaceæ, Engler).

ACAULON muticum, CM. (PHASCUM, SPHÆRANGIUM). Bare sandy spots, fallow-fields; probably not unfrequent.
1. Greenhithe, '77. G.
2. Eynsford, abundant, '01. H.

PHASCUM Flœrkeanum, W. & M. Clayey and chalk fields; not common; winter.
1. On clods of chalk on Morant's Court Hill, '01. H.
2. Keston, '01. C.
3. Shoreham. W.R.S.

P. curvicolle, Ehrh. Chalky banks, bare places and fallow fields on the chalk; rare; spring.
1. Greenhithe, '77. G.
2. Shoreham, '01. H.
a. Morant's Court Hill, 1845.

P. cuspidatum, Schr. Clay banks, waste places, sandy fallow fields, wall tops and grassy hedgebanks; very common; spring and autumn.
1. Sydenham, '77. G.
2. Darenth and Shoreham. W.R.S.
3. Near High Elms, Chelsfield, '77. H.

POTTIA bryoides, Mitt. (PHASCUM). Fallow fields and bare places; rare; winter.
1. On a grassy slope near Shoreham, very sparingly, '01. H.

P. intermedia, Fürnr. (GYMNOSTOMUM). Walls, fallow fields, etc.; frequent; winter.
1. Coney Hill, Hayes, '01. C.

P. lanceolata, CM. (LEERSIA). Dry banks, wall-tops ; 2—4.
1. Chelsfield, sparingly, '77. H.

P. minutula, Fürnr. (GYMNOSTOMUM). Damp banks and fallow fields ; frequent ; 12—2.
1. Shoreham. W.R.S.
2. Otford, '77.
3. Common on the chalk, 1845.

P. recta, Mitt. (PHASCUM). Bare places and fallow fields on the chalk ; not common ; 12—2.
1. Morant's Court Hill and elsewhere on the chalk, frequent, '77. H.
2. Shoreham. W.R.S.

P. starkeana, CM. (WEISIA). Loose earth in hedgebanks, fallow fields ; not common ; 2—3.
1. Greenhithe, '77. H.

P. truncatula, Lindb. (BRYUM ; POTTIA TRUNCATA, Fürnr.). Banks, clayey fields, meadows, wall-tops ; very common ; autumn and winter.
1. Bromley, '77. G.

TORTULA aloides, De Not. (TRICHOSTOMUM, BARBULA). Chalky or marly banks, mud walls ; not uncommon ; 12—1.
1. Greenhithe, '77. G.

T. ambigua, Angstr. (BARBULA ; T. ERICÆFOLIA, Lindb.). Chalky banks, damp rubble in chalk-pits, chalky mud walls ; not uncommon ; 12—1.
1. Greenhithe, in large chalk-pit, '77. H.

T. marginata, Spruce (BARBULA). Damp stone walls ; local ; 5—6.
1. On bricks, Bromley, '01. C.
2. On walls, mixed with T. muralis, High Elms, Chelsfield, '77. H.

T. muralis, Hedw. (BRYUM, BARBULA). Old brick walls, stones ; very common ; 3—4.

T. mutica, Lindb. (BARBULA LATIFOLIA, B. & S.). Roots of trees and posts by water ; rather rare ; 4—5.
1. Chislehurst, on the root of a tree by the roadside near the pond, '77. H.

T. papillosa, Wils. (BARBULA). Trunks of trees near ponds ; rare ; fruit not known.
1. Hayes Ford, '01. C.

T. pusilla, Mitt. (Bryum; Pottia cavifolia, Ehrh.). Walls and chalk banks; locally abundant; 12—2.
1. Above chalk-pit near Greenhithe Station, '77. H.

T. ruralis, Ehrh. (Bryum, Barbula). Thatched roofs, stony ground, walls; frequent; 4.
1. Shoreham. W.R.S.

T. subulata, Hedw. (Bryum, Barbula). Sandy banks; common; summer.
1. Greenhithe, '77. G.
2. Abbey Wood, Hayes Common, Ide Hill, '77. H.

BARBULA convoluta, Hedw. Dry sunny places on the ground and wall-tops; frequent; spring.
1. Keston Common, '01. J.S.

B. cylindrica, Schp. (Zygotrichia). Walls, banks of streams, etc., especially in chalky districts; frequent; fruit rare; spring and summer.
1. Greenhithe in fruit, '06. H. (Vict. Hist.).

B. hornschuchiana, Schultz. On the ground in fields, old quarries, and on walls; rare; spring.
1. Shoreham, '01. H.
2. Otford. W.R.S.

B. lurida, Lindb. (Didymodon). Chalk banks, old walls, stumps; frequent; 12.
1. Shoreham, Greenhithe, '01. H.
2. Down, '01. C.

B. unguiculata, Hedw. (Bryum). Banks, walls, fields, bare ground; very common everywhere; winter.

B. vinealis, Brid. Walls and rocks, roots of trees; frequent; spring.
1. District 1. (Vict. Hist. of Kent).

LEPTODONTIUM flexifolium, Hampe (Bryum, Didymodon). Damp grassy heathy places and in woods; rare; 2.
1. Hayes Common, '77. H.

WEISIA crispa, Mitt. (Phascum, Systegium, Mollia). On the ground; chalk banks; frequent; spring.
1. Keston and Hayes Commons, '77. T.H.
2. Shoreham. W.R.S.

W. crispata, CM. (Hymenostomum). Calcareous rocks, banks and walls; rare.
1. Shoreham, H. (Vict. Hist.).

W. mucronata, B. & S. (MOLLIA RUTILANS, Lindb.). Clay banks under undershrubs or herbage ; rare ; 12—2.
1. Forest Hill, '77. G.

W. tenuis, CM. (MOLLIA, GYMNOSTOMUM, GYROWEISIA). On inclined faces of chalk or sandy rocks ; rare.
1. On chalk, Leaves Green, '01. C.

W. viridula, Hedw. (BRYUM, MOLLIA ; W. CONTROVERSA, Hedw.). Banks and sandy ground ; common ; 11—5.
1. Greenhithe, '77. G.
2. Hayes Common, '77. H.

TRICHOSTOMUM tortuosum, Dixon (BRYUM, MOLLIA, BARBULA). Rocks on the chalk ; rare.
1. Between Shoreham and Eynsford on the side of a chalk cutting. H. W. Mornington.

N.O. 7. *ENCALYPTACEÆ* (*sub-order of Pottiaceæ, Engler*).

ENCALYPTA streptocarpa, Hedw. (LEERSIA CONTORTA, Lindb.). Chalky banks, on mortar of old walls ; not uncommon.
1. Morant's Court Hill, etc., '77. H.

E. vulgaris, Hedw. (LEERSIA EXSTINCTORIA, Leyss.). Chalk quarries, walls, sometimes on sandy banks ; rather rare ; 3—4.
1. Cobham, '77. Mitten.
2. Sandy bank, Keston Common, '77. T. H.

N.O. 8. *ORTHOTRICHACEÆ.*

ZYGODON viridissimus, R.Br. (BRYUM). On old trees ; common ; 3.
1. Abbey Wood, Chelsfield, Shoreham, Eynsford, '77. H.

ORTHOTRICHUM affine, Schr. Trees, sometimes on stones ; common ; summer.
1. Shoreham. W.R.S.

O. anomalum, Hedw., var. **saxatile**. Milde. Chalk rocks and walls ; frequent ; spring.
1. On tiles of a shed by a chalk pit between Shoreham and Morant's Court Hill, 1845. H.

O. cupulatum, Hoffm. Calcareous stones and walls ; rare ; summer.
1. Same as anomalum.

O. diaphanum, Schr. Tree trunks, wooden palings ; common ; 4.
1. Greenhithe, '77. G.
2. Farningham, '77. T.H.

O. leiocarpum, B. & S. (STRIATUM, Hedw.). Trees ; frequent ; 2—3.
1. Shoreham, Halstead, '77. H.

N.O. 9. *SPLACHNACEÆ.*

SPLACHNUM ampullaceum, L. On dung of horses and cattle in boggy places on upland heaths ; rare ; 5—6.
1. Keston Common, '75, G.
a. West Wickham, abundant, 1724.

N.O. 10. *FUNARIACEÆ.*

EPHEMERUM serratum, Hampe (PHASCUM). Sandy fallow fields, dried-up ditches, clayey places ; late autumn ; not infreq.
1. Ide Hill, '77. H.
2. In a grass plot, Forest Hill, '77. G.
3. Kevington and Farningham Woods, '01. C.

FUNARIA ericetorum, Dixon (GYMNOSTOMUM, ENTOSTHODON, F. OBTUSA Lindb.). Damp shady banks ; not unfrequent ; spring.
1. Joyden's Wood, '01. H.

F. fascicularis, Schp. (BRYUM, PHYSCOMITRIUM). Clayey fallow fields ; not common ; 4.
1. Near Ide Hill, Cudham, '01. H.
2. Grove Park, '01. C.

F. hygrometrica, Sibth. (MNIUM). Sandy places, quarries, banks, heaths where the herbage has been burnt ; common ; summer.
1. Keston Common, abundant '06. J.F.B.
2. Swanscombe Wood, '01. H.

N.O. 11. *MEESIACEÆ.*

AULACOMNIUM androgynum, Schw. (MNIUM, ORTHOPYXIS). Dry woods, damp shady sandy hedgebanks, rotten tree trunks ; frequent ; 5.
1. Darenth Wood ; Chislehurst, '77. H.
2. Abbey Wood (fr.), 1843.
3. Lane between Shooter's Hill and Eltham, '06. J.F.B.

A. palustre, Schw. (Mnium, Gymnocybe). Bogs ; not common ; 6.
1. Keston Common (fr.), '77. T.H.

N.O. 12. *BARTRAMIACEÆ.*

BARTRAMIA pomiformis, Hedw. (Bryum). Sandy hedgebanks in hilly districts ; frequent ; spring.
1. Near Keston Common, '77. H.

B. ithyphylla, Brid. Clefts of rocks ; rare ; summer.
1. Halstead, H. (Vict. Hist.).

PHILONOTIS fontana, Brid. (Mnium). Peat bogs, wet places ; not common ; 6.
1. Keston Common, '01. J.S.

N.O. 13. *BRYACEÆ.*

WEBERA albicans, Schp. (Bryum, Pohlia). Wet clayey banks and dripping places ; frequent ; 5.
1. On a bank near Keston, '77. H.

W. carnea, Schp. (Bryum, Pohlia). Damp soil at the bottom of hedgebanks ; damp rubble in quarries ; clay banks by the side of ditches and streams ; frequent ; 3—4.
1. In the large quarry near Greenhithe Station (fr.), abundant, '77. H.
a. Blackheath, 1836 ; roadside between Lee and Eltham, 1836.

W. nutans, Hedw. (Bryum, Pohlia). Peaty and sandy soil in woods and heaths ; frequent ; 5.
1. Bostall Wood ; Pauls Cray Common, '77. H.
2. Keston Common, '01. J.S.
3. Hayes Common. W.R.S.
a. Mountainous heaths about Woolwich, 1805.

W. tozeri, Schp. (Bryum, Epipterygium). A Mediterranean sp which has crept along the coasts of W. Europe to the South of England ; sandy banks and sides of streams ; rare ; spring.
1. Swanscombe Wood, barren. Rev. C. A. Johns (Bry. Brit.).

BRYUM alpinum, Huds. Wet alpine and subalpine rocks, rarely on less elevated heaths ; common in its habitat.
1. Spring Park Wood, '01. C. (unusual station).

B. argenteum, L. Waste ground, cinders, walls, roofs, fields, waysides ; very common and very abundant ; late autumn.
1. Greenhithe, '77. H.
2. Catford Bridge, '01. G.

B. atropurpureum, W. & H. (BICOLOR, Dicks.). Clay banks, roadsides, mud-capped walls, damp bare earth ; common ; 4—6.
1. Keston Common, '77. H.
var. b.) **gracilentum,** Tayl. With the type, frequent.
1. Kevington, '01. C.

B. cæspiticium, L. Dry banks, walls, rocks, roofs ; frequent ; summer.
1. Wall near Hayes Common ; Chislehurst ; Shorncliffe, '77. H.

B. capillare, L. Walls, rocks, tree trunks ; very common ; 5.
1. Keston Common, '77. H.
2. Darenth. W.R.S.

B. donianum, Grev. Stony ground and gravelly banks ; not common ; 4—6.
1. Bexley, '77. H.

B. erythrocarpum, Schw. (SANGUINEUM, Brid.). Sandy and peaty heaths ; common ; summer.
1. Polehill, '01. J.S.
2. Swanscombe Wood, '77. H.

B. murale, Wils. On mortar of recently made walls ; not common ; 4—6.
1. Woolwich, '77. Gray.
2. Greenhithe, '01. J.S.

B. pallens, Sw. By streams and ditches ; frequent ; 6.
a. Shooter's Hill, 1724.

B. pendulum, Schp. (CERNUUM, B. & S.). Walls, dry heaths, sand, etc. ; not uncommon ; spring and early summer.
1. Catford Bridge, '01. G.

B. pseudotriquetrum, Schw. (MNIUM ; B. VENTRICOSUM, Dicks.). Bogs and wet places ; not common ; summer.
1. Keston Common, '01. G.

B. roseum, Schr. (MNIUM ; BRYUM PROLIFERUM, Sibth.). Shady banks and damp woods in hilly districts ; rare ; 12.
1. Holwood, '01. C.
a. Shooter's Hill, 1724

MNIUM hornum, L. Sandy banks in woods, hedgebanks ; about the roots of trees ; very common ; 4—5.

1. Abbey Wood, abt. '77. H.
2. Hayes. W.R.S.

a. Charlton Wood, 1724.

M. punctatum, L. Damp, shady and rocky places ; by the side of streams ; frequent ; 4—5.

1. Joyden's Wood, '77. H.

M. rostratum, Schr. Stones and rocks in streams ; damp shady banks and walls ; frequent ; 4—5.

1. St. Mary Cray, '77. T.H.

M. undulatum, L. Damp shady woods ; very common ; fruit rare, 4—5.

1. Abbey Wood, Swanscombe Wood, '77. H.
2. Chevening Park, '01. J.S.

Series II.—Pleurocarpi.

N.O. 14. *FONTINALACEÆ.*

FONTINALIS antipyretica, L. An aquatic moss in streams and rivers ; common ; 6—7.

1. In the River Darenth between Eynsford and Farningham, '77. T.H.
2. Lullingstone Park, '01. J.S.

N.O. 15. *CRYPHÆACEÆ.*

CRYPHÆA heteromalla, Mohr (NECKERA ; C. ARBOREA, Lindb.). Trunks of trees ; not common ; 5—6.

1. Chevening, '01. J.S.

NECKERA complanata, Hübn. (HYPNUM). Tree trunks ; near the base of old trunks ; frequent ; 11—12.

1. Abbey Wood, '77. H.

N. crispa, Hedw. (HYPNUM). Chalk hills and banks ; frequent ; early summer.

1. Morant's Court Hill and elsewhere on the chalk, frequent, 1845.

a. Bank of Thames, near Northfleet and Gravesend, 1724.

HOMALIA trichomanoides, B. and S. (HYPNUM). Trunks of trees, near the base; shady woods; shady roadsides near watercourses; not common; 10—11.
1. Greenhithe, '77. H.

N.O. 16. *LESKEACEÆ.*

ANOMODON viticulosus, Hook. and Tayl. (HYPNUM). Roots of trees, old walls; shady calcareous roadsides; common; 2.
1. Abbey Wood, '77. H.
2. Greenhithe, '01. G.
3. Otford and Shoreham. W.R.S.
4. Morant's Court Hill, 1842.
a. Chalk hills between Northfleet and Gravesend, 1724.

THUIDIUM abietinum, B. and S., var. **hystricosum,** Mitt. In shady grassy places on chalk hills; rare: not found in fruit.
1. Greenhithe, '77. H.
2. Cudham, '01. H.
3. Shoreham W.R.S.
a. Morant's Court Hill, about 1845.
b. About Greenhithe and Gravesend, 1837.

T. recognitum, Lindb. (HYPNUM). In shady grassy places on chalk hills; not observed in fruit in Kent.
1. Near the "Fox" Inn, Keston, '01. C.

T. tamariscinum, B. and S. (HYPNUM). Shady woods; com.; 11.
1. Abbey Wood, '77. H.

N.O. 17. *HYPNACEÆ.*

CYLINDROTHECIUM concinnum, Schp. (HYPNUM; ENTODON ORTHOCARPUS, Lindb.). Shady banks and in grass on the chalk; not common; often growing with PURUM; fruit not observed in Britain.
1. Down, '01. C.

CAMPTOTHECIUM lutescens, B. and S. (HYPNUM). Dry, chalky hedgebanks, quarries; frequent; 12.
1. Greenhithe, '01. G.
2. Down. W.R.S.
a. About Northfleet and Gravesend, 1836.

C. sericeum, Kindb. (HYPNUM, PLEUROPUS). Trees and stone walls; very common; 12—3.
a. Abbey Wood; about Woolwich, 1837.

BRACHYTHECIUM albicans, B. and S. (HYPNUM). Sandy grassy places; stony places, wall-tops; common; 11—12.
1. On a cottage roof, Shoreham, very fine, '77. T.H.
2. Bostal Heath; Paul's Cray Common, '77. H.

B. illecebrum, De Not. (HYPNUM, SCLEROPODIUM). Sandy grassy heaths, usually barren.
1. Keston Common, '77. T.H.
2. Hayes Common; Swanscombe Wood, '77. H.

B. purum, Dixon (HYPNUM). Banks and grassy places; very common everywhere; rarely fruits, spring.
1. Chelsfield (fr.), '77. H.
2. Greenhithe, '01. G.
3. Hayes Common. W.R.S.

B. rutabulum, B. and S. (HYPNUM). Trees, hedgebanks, walls, earth; very common everywhere; 11—12.
1. Greenhithe, Halstead, '77. H.
2. Forest Hill, '01. G.

B. velutinum, B. and S. (HYPNUM). Hedgebanks, roots of trees, stones and rocks in sandy districts; common; 12—2.
1. Abbey Wood; Halstead, '77. H.
2. Paul's Cray, '01. G.

EURHYNCHIUM confertum, Milde (HYPNUM, RHYNCHOSTEGIUM). Roots and stumps of trees; stones; shady hedgebanks and thickets; common; 11—2.
1. Hayes Common, '77. H.
2. Greenhithe, '01. G.

E. megapolitanum, Milde (HYPNUM, RHYNCHOSTEGIUM). Stony and sandy ground, hedgebanks; rare; winter.
1. Near Hayes Common, '77. H.

E. myosuroides, Schp. (HYPNUM, ISOTHECIUM). Rocks, stumps of trees; not infrequent; 11.
1. Abbey Wood; near Ide Hill (fr.), '77. H.

E. piliferum, B. and S. (HYPNUM). Damp woods and grassy banks; frequent; 11.
1. Abbey Wood; Greenhithe, abundant, '77. H.

E. prælongum, Hobkirk (HYPNUM; E. STOKESII, B. and S.). Hedgerows, woods; very common, especially on clayey soils; 12.
1. Abbey Wood; Northfleet, '77. H.
2. Chevening, '01. J.S.
3. Otford. W.R.S.

E. pumilum, Schp. (HYPNUM ; H. PALLIDIROSTRE, Braun). Damp shady banks in woods ; stony ground in shady places ; not common ; 12.

1. Abbey Wood ; Greenhithe ; Keston (fr.), '77. H.

E. rusciforme, Milde (HYPNUM, RHYNCHOSTEGIUM). Rocks and stones in or near streams ; at the base of damp walls ; frequent ; 11—12.

1. Otford. W.R.S.

E. striatum, B. and S. (HYPNUM). In woods, hedges, etc. ; common ; 12.

1. Darenth Wood, '77. H.

E. Swartzii, Hobkirk (HYPNUM, EURHYNCHIUM PRÆLONGUM, B. and S.). Same habitats as E. PRÆLONGUM, Hobk., but usually in more open situations ; frequent in calcareous districts ; fr. rare, winter.

1. In the Darenth, near Farningham, '77. T.H.
2. Abbey Wood (fr.) ; Greenhithe, '77. H.

E. tenellum, Milde (HYPNUM, RHYNCHOSTEGIUM). Old walls, rocks and stones in shady places, especially on the chalk ; frequent ; 10—12.

1. On a tree, between Gravesend and Northfleet, '77. H.
2. Shoreham, abundant ; Greenhithe, '01. G.
3. Frequent on the chalk, 1845.

var. b.) **scabrellum,** Dixon (H. LITOREUM, De Not.). Wood, tree-trunks in chalky districts.

1. Shoreham ; Farningham, '01. C.

PLAGIOTHECIUM denticulatum, B. and S. (HYPNUM). On decaying trunks in damp woods ; turfy soil among rocks ; hedge bottoms ; very common and very variable, 5—6.

1. Abbey Wood ; Swanscombe Wood, '77. H.
2. Chevening Park, '01. G.

a. Blackheath and about Woolwich, 1836.

P. depressum, Dixon (HYPNUM, RHYNCHOSTEGIUM, ISOPTERYGIUM). Foot of trees and shady rocks in chalky districts ; not common ; fr. rare, winter.

1. Halstead, '77. H.

P. latebricola, B. and S. (LESKIA, Wils.). Decaying tree stumps, fern roots ; rare.

1. Wood between Bromley and Beckenham, '01. C.

P. silesiacum, B. and S. (HYPNUM ; ISOPTERYGIUM REPENS, Lindb.). Rotten tree trunks ; very rare ; 4—5.

1. Joyden's Wood, sparingly, '77. T.H.
2. Abbey Wood, 1843.

P. sylvaticum, B. and S. (HYPNUM). Peaty soil in woods ; moist shady banks and rocks ; not common ; fr. rare, summer.

1. Abbey Wood ; near Bexley (fr.), '77. H.

P. undulatum, B. and S. (HYPNUM). Damp sloping banks in woods ; at the foot of rocks ; among heath ; freq. ; 4—5.

1. Abbey Wood, '77. H.
a. Blackheath, 1836.
b. Shooter's Hill, 1805.

AMBLYSTEGIUM filicinum, De Not. (HYPNUM). Wet banks and on stones in rivulets ; frequent in chalky districts ; 4—5.

1. Greenhithe, '77. H.
2. Hayes. W.R.S.
a. About Northfleet and Greenhithe ; Chislehurst, 1836.

A. irriguum, B. and S. (HYPNUM). Stones in streams ; rather rare ; 5.

1. Farningham, '77. T.H.
2. Greenhithe, '77. H.

A. juratzkanum, Schp. Damp meadows, roots of trees and walls near water ; rare.

1. Wood between Bromley and Beckenham, '01. C.

A. serpens, B. and S. (HYPNUM). At the foot of decaying tree-trunks ; on the ground, on stones and in hedgebanks ; very common ; 5—6.

1. Abbey Wood, '77. H.
2. Greenhithe, '01. G.

HYPNUM aduncum, Hedw. (AMBLYSTEGIUM KNEIFFII, B. and S.). Pools ; marshy meadows among grass ; common ; 6.

1. New Cross, '01. G. (var. KNEIFFII).

H. chrysophyllum, Brid. Damp hedgebanks and on rubble heaps in chalky districts ; frequent ; fr. rare, 5.

1. Woods near Cudham, abundant ; Shoreham, '01. A. W. Hudson.
2. Otford. W.R.S.

H. cupressiforme, L. (STEREODON). Tree-trunks and stumps, stones, hedgebanks; very common and abundant; winter and spring.
1. Abbey Wood; Shoreham, '77. H.
2. Greenhithe, '01. G.

var. **ericetorum,** B. and S.
1. Abbey Wood, '77. H.

var. **resupinatum,** Schp. Frequent.
1. Keston, '77. T.H.
2. Abbey Wood; Greenhithe; Paul's Cray Com., '77. H.

H. cuspidatum, L. (ACROCLADIUM). Wet meadows, marshes, etc.; very common; 5—6.
1. Greenhithe; Ide Hill; Keston, '77. H.
a. Charlton Wood, 1836.
b. In a bog near Charlton, 1724.

H. exannulatum, Gümb. (AMBLYSTEGIUM). Bogs; pool-sides; not common; 5—6.
1. Keston Common, '77. H.
2. Greenhithe, '01. H.

H. fluitans, L. (AMBLYSTEGIUM). Peat bogs, stagnant water; frequent; 4—5.
1. Keston Common, '77. H.
2. Swanscombe Wood, '77. H.

H. hispidulum, Brid., var. **Sommerfeltii,** Myr. Roots of trees, stones, on the chalk; common; summer.
1. Greenhithe chalk quarries; banks near High Elms, '77. H.

H. molluscum, Hedw. (CTENIDIUM). Common on the chalk.
1. Abbey Wood, '77. H.
2. Morant's Court Hill and elsewhere on the chalk, 1845.
a. Chalk hills between Northfleet and Gravesend, where the orchids grow, 1724.

H. riparium, L. (AMBLYSTEGIUM). On damp soil, occasionally inundated and on woodwork by the side of canals and rivers; frequent; 5—6.
1. Farningham, '77. T.H.
2. New Cross, '01. G.

H. Schreberi, Willd. (HYLOCOMIUM PARIETINUM, Lindb.). Sandy woods and heaths; frequent; fr. rare, late autumn.
1. Darenth Wood; Keston Common; Bostall Heath, etc., '77. H.
2. Greenhithe, '01. G.

HYLOCOMIUM squarrosum, B. and S. (HYPNUM). Damp grassy places ; common ; 11.

1. Chislehurst, Greenhithe, Abbey Wood, etc., '77. H

H. triquetrum, B. and S. (HYPNUM). Shady woods, thickets and hedges ; common ; 12.

1. Greenhithe, etc., '77. H.

Section II. HEPATICÆ (Liverworts).

The present list of Liverworts is based on a paper of E. M. Holmes, F.L.S., published in the *Journal of Botany*, 1878. A considerable number of sp. are cultivated at the Winter Gardens at Avery Hill (L.C.C.), and several common British forms have been introduced by the L.C.C. into the ponds and ditches about Eltham. The Jungermanniales are not here divided into families, because of the numerous cross-connections between the groups, and the consequently unsatisfactory state at present of the classification.

Class I.—MARCHANTIALES.

N.O. 1. *RICCIACEÆ*

RICCIA glauca, L. In clover fields and on damp fallow ground ; 12.

1. Ide Hill, '78. H.

R. crystallina, L. Very rare.

a. In a ditch near Deptford Lock, 1724.

R. fluitans, L. Aquatic.

1. In little pond in wood near Well Hall, '07. A. Tynemouth.
2. Pond, back of Pippin Hall Farm, Eltham (introduced), '07. L.C.C.

N.O. 2. *MARCHANTIACEÆ.*

MARCHANTIA polymorpha, L. Damp shady banks ; frequent, especially on flower-pots in greenhouses ; circular gemmæ-cups ; 7.

1. Hirst Woods, Bexley, on banks of stream, '07. J.F.B.
2. Flower pots, Avery Hill, abundant, '07. L.C.C.

a. Blackheath, 1836.

REBOULIA hemispherica, Raddi, (ASTERELLA). Damp rocky places; moist shady hedgebanks in hilly districts; under side of thallus purplish; scarce; 4—6.

1. Halstead, '78, H.
   a. In a small watercourse near the Wells at Sydenham, 1805.

FEGATELLA conica, Corda (CONOCEPHALUS). Damp stream-sides, dripping places in hilly districts; strong aromatic odour when squeezed; v. local in our part of Kent; 3—4.

1. Railway arch over stream, near Chislehurst, at water's edge, '07. L.C.C.

PREISSIA commutata, Nees. Fissures of damp rocks, especially limestone; very rare; 4—5.

a. In a small watercourse near Dulwich Wells, towards Northwood, 1724.

LUNULARIA cruciata, Dum. (VULGARIS). Moist limestone walls; damp hedgebanks; flower pots in greenhouses (Avery Hill Fernery); very frequent; never observed to fruit in this country.

1. Moist shady banks in Elmstead Lane, Mottingham, abt. '07. J.F.B.

Class II.—JUNGERMANNIALES.

Series I.—Acrogynæ.

FRULLANIA dilatata, Dum. Trunks of trees and rocks; very common; winter.

1. Knockholt, '78. G.
2. Trees near Chelsfield, '78. H.
3. At the base of a birch tree, edge of bog, Keston, '07. L.C.C.

F. tamarisci, Dum. As DILATATA but less frequent; 7.

1. Knockholt, '78. G.

LEJEUNIA inconspicua, De Not. (MINUTISSIMA, Dum.). Tree trunks in damp woods (oak, fir); 4—5.

1. On an old elder, Morant's Court Hill, '78. H.

L. serpyllifolia, Lib. Tree trunks; 4—5.

1. Darenth Wood, '78. G.

RADULA complanata, Dum. (STEPHANINA). In thick masses on trees or rocks; common; fruits all the year round.

1. Near Chelsfield, on the roots of trees; Abbey Wood, '78. H.
2. Greenhithe, '78. G.

PORELLA platyphylla, L. (PALLAVICINIA). On stones and stumps in hedgebanks ; common, especially on the chalk ; 3—8.
1. Bromley ; Knockholt, '78. G.
2. Swanscombe Wood ; Shoreham ; Chelsfield ; Otford, '78. H.

LEPIDOZIA reptans, L. Damp places in woods and thickets ; frequent ; 3—4.
1. Abbey Wood, '78. G.
2. Darenth Wood ; near Dartford (fr.), '78. H.

CEPHALOZIA bicuspidata, L. Damp banks in woods and on heaths ; very common ; 2—4.
1. Joyden's Wood, '78. H.

C. divaricata, Sm. (BYSSACEA, Dum.). Damp chalky banks in woods ; frequent ; 2—4.
1. Railway bank, Forest Hill, '78. G.
2. Between Shoreham and Otford, '78. H.

LOPHOCOLEA bidentata, L. Among mosses in woods and thickets ; on damp hedgebanks ; common ; 3—4.
1. Crystal Palace grounds, very common, '78. G.
2. Plentiful in damp lanes around Eltham, '07. L.C.C.

L. heterophylla, Schr. Tree stumps in woods and thickets ; frequent ; 3—4.
1. Perry Vale, Sydenham, '78. G.
2. Abbey Wood ; Crofton Wood, '78. H.

KANTIA trichomanis, Dicks. (CALOPOGEIA). Damp clayey banks and on paths in woods ; frequent ; 2—4.
1. Swanscombe Wood, Crofton Wood, '78. H.
2. Joyden's Wood (fr.), '78. H.
a. Shooter's Hill, Eltham and Woolwich, 1724.

LEPIDOZIA setacea, Web. (BLEPHAROSTOMA). Damp, heathy places ; in bogs among Sphagnum ; under tufts of heath ; not uncommon ; 10—11.
1. Keston Common, '78. T.H. (in bog, '07, L.C.C.).
2. Joyden's Wood, '78. H.

SCAPANIA nemorosa, Dum. Damp shady banks and woods ; 5—6.
1. Swanscombe Wood, Joyden's Wood, '78. H.

S. undulata, Dum. Rocks in wet places, brooks ; not common ; 5—6.
1. Ide Hill, growing with Hypnum pratense near the roadside, '78. H.

DIPLOPHYLLUM albicans, Dum. Damp hedgebanks and woods ; very common ; 3—4.

1. Joyden's Wood, '78. H.

PLAGIOCHILA asplenioides, Dum. Among mosses on damp shady banks, especially in woods; freq.; not observed in fruit.

1. Knockholt, '78. G.
2. Joyden's Wood, '78. H.

JUNGERMANNIA attenuata, Lindb. On sandy banks with mosses in old woods ; 4.

1. Abbey Wood, '78. H.

J. exsecta, Schm. Banks in old woods ; rare ; not observed in fr.

1. Joyden's Wood, '78. H.

APLOZIA crenulata, Dum. Moist clayey banks in woods ; boggy places on heaths ; 12—4.

1. Keston Common, fr. in April, '78. H.

A. sphærocarpa, Dum. Wet rocks and stones by streams and in boggy places ; rare ; 3—4.

1. Joyden's Wood, '78. H.

GYMNOCOLEA inflata, Dum. Wet places on heaths and in heathy woods ; rare ; 1—4.

1. Keston Common, '78. H.

NARDIA scalaris, Gray (ALICULARIA). Damp clayey banks in woods ; 3—4.

1. Keston ; Chislehurst, '78. H.

Series 2.—Anacrogynæ.

FOSSOMBRONIA pusilla, L. Moist places in woods ; ditch sides ; not common ; 11—3.

1. Joyden's Wood (fr. 12) ; Swanscombe Wood, '78. H.

a. Woolwich Heath, 1805.

PELLIA calycina, Mack. Dripping places on the side of ditches ; 2—3.

1. Bexley, '78. H.

a. About Woolwich, 1724.

P. epiphylla, L. Shady wet places, ditches, etc. ; common ; 4.

1. Hirst Woods, '06. L.C.C.
2. By ditch in wood between Woolwich and Eltham, L.C.C., '07.

a. About Woolwich, 1836.

METZGERIA furcata, L. Trunks of trees, bushes ; shady rocks ; very common ; 10—3.

1. Knockholt, '78. G.

ANEURA multifida, L. (RICCARDIA). Damp clayey banks ; ditch sides ; frequent ; 1—3.

1. Charlton, near the quarry ; Crofton Wood, '78. H.

a. Charlton Wood, 1836.

A. pinguis, L. Wet places ; 2—3.

1. In a wet part of the large quarry near Charlton Station, abt. (fr.), with Pellia epiphylla, '78. H.
2. On sides of ditches near Avery Hill, '07. Introduced by the L.C.C.

Class III.—ANTHOCEROTALES.

ANTHOCEROS punctatus, L. Damp fallow fields and on ditch banks ; 7—8.

a. In moist shady places on banks of Woolwich Heath, 1805.

PART III.

THALLOPHYTA.

DIVISION A.—FUNGI.

Our district is rich in Fungi, due to the presence in it of numerous coppices, thickets and pine woods, but only a few localities have been carefully explored, and these, in many cases, not recently.

In 1879, T. Howse, F.L.S., published a series of papers on the Fungi of Kent in the *Journal of Botany*, taking as basis his own records and those of E. M. Holmes, F.L.S., of Sevenoaks, and supplementing these by the more or less historical records contained in the following works :—

Mrs. Hussey, *Illustrations of British Mycology*, 1847.
Berkeley's *British Fungology*, 1860 ; *English Flora*, vol. v., 1836.
G. Sparkes, *List of Agarics found near Bromley*, in the *Phytologist*, 1844.
W.T.T., *List of Fungi near Tunbridge* in the *Gardener's Chronicle* 1875.

Mr. E. M. Holmes has recently made a summary of these records for the *Victorian History of Kent*, but, unfortunately, it contains little that is new. The records are obviously very old and often erroneous, and many of the localities, which come within the boundaries of our survey, are now quite impossible, having been absorbed within the ever-spreading arms of the great Metropolis.

In other groups of the Lower Plants, *e.g.*, the Mosses, Liverworts and Lichens, we have made the greatest possible use of the papers by Mr. Holmes in the *Journal of Botany*, not merely because of the excellent way the records are treated, but because we believe that most of them probably stand to this day, thereby affording a sound basis for future work. As we cannot, from the very nature of the plants, say the same for the Fungi, we have decided to make no use of Mr. Howse's lists, but have limited our entries to the groups in which more recent work has been done. For this reason some of the largest and most important groups have received no attention at all, and others next to none.

Section I.—BASIDIOMYCETES.

Class I.—AUTOBASIDIOMYCETES.

Group 1.—Hymenomycetes.

This, the Agaric Section, contains a huge number of specific forms. It was very fully treated by T. Howse, F.L.S., in the *Journal of Botany*, 1879, but as we can neither supplement, correct nor confirm the records, we have decided to omit them for the reasons given above.

Group 2.—Gasteromycetes.

The same remarks apply to this group as the last.

Class II.—PROTOBASIDIOMYCETES.

Group 1.—Uredineæ.

This is a group of parasitic fungi, giving rise to diseases in higher plants. The records given below are either by the L.C.C. Botany Department, Avery Hill, 1906—1907 (Eltham district), or by Rudolf Beer, F.L.S., Bromley Naturalists' Society, 1900—1907 (Bromley district); they are very imperfect, and many common moulds and mildews have been omitted, but if they stimulate further inquiry, they will have served their purpose. The published records are very old and of historical interest only, and as the appearance of many of these diseases is uncertain after a few years, and sometimes even in the following season, we have decided to omit all reference to them. Those who desire further information about these records may consult the following works :—

1. M. C. Cooke, *Handbook of British Fungi*, 1871, etc.
2. *First Report of the Botanical Committee of the Greenwich Natural History Club*, 1857. The records of the Fungi are by the late Mr. Currey, F.L.S., but exact localities are not given.
3. *Journal of Botany*, 1879, where T. Howse, F.L.S., has collected the records of Cooke and Currey.
4. The *Victorian History of Kent*, now in course of publication, which gives a concise summary of these records (E. M. Holmes, F.L.S.).

CAEOMA mercurialis, Wint. Common on Dog's Mercury.

COLEOSPORIUM campanulæ, Lév. On cultivated Campanulas, Avery Hill.

C. euphrasiæ, Schum. On cow-wheat; roadside, Keston.

C. senecionis, Pers. Common everywhere. It is interesting to note that this fungus attacked a group of Cinerarias grown in a greenhouse at Bickley. Beer.

C. sonchi, Pers. (**C. tussilaginis,** Lév.). Common everywhere.

MELAMPSORA betulina, Pers. Chislehurst, etc. ; common.

M. helioscopiæ, Pers. Orpington, etc.

PHRAGMIDIUM fragariastri, DC. Bickley.

P. rubi, Pers. On brambles, very common.

P. subcorticatum, Schrank. Bromley, Otford, etc.

P. violaceum, Schultz. On Viola odorata, Bexley Woods.

PUCCINIA adoxæ, DC. On Adoxa, Bexley Woods and coppice, Elmstead Lane ; Chislehurst.

P. caricis, Schum. Aecidiospores, Chislehurst ; uncommon.

P. circeæ, Pers. On Circæa, near Down ; not common.

P. coronata, Corda. Keston.

P. fusca, Relh. Very common on Wood Anemone, Bexley Woods, etc., L.C.C. Chislehurst ; the æcidiospores, known as **Æcidium leucospermum,** DC., are rare, but were found on the same clump of plants earlier in the year. R. Beer.

P. glechomatis, DC. Teleutospores, Chislehurst.

P. graminis, Pers. Very common on Poas, Eltham, L.C.C. This species has now been split up into a number of new morphological and biological forms, of which several no doubt exist in the district, but there are no records (Salmon). R. Beer.

P. hieracii, Schum. Bickley, etc.

P. lapsanæ, Schultz. Hayes.

P. malvacearum, Mont. Very common on mallows and hollyhocks.

P. menthæ, Pers. Common on garden and other mints, J.F.B.

P. phalaridis, Plow. Æcidiospores, Keston.

P. poarum, Niel. Fairly common on Poa, Eltham.

P. poarum, Niel., var. **tussilaginis,** Pers. Aecidial stage common on Tussilago farfara, Avery Hill ; teleutospore stage on Poa.

P. pulverulenta, Grev. Bickley.

P. rubigo-vera, DC. Common.

P. suaveolens, Pers. Bickley, etc.

P. taraxacii, Plow. Fairly common.

P. violæ, Schum. Bickley.

UREDO agrimoniæ, DC. Chislehurst.

UROMYCES fabæ, Pers. Bickley.

U. ficariæ, Schum. On Ranuculus ficaria, Avery Hill.
U. poæ, Rabh. Fairly common.
U. polygoni, Pers. Common.
U. rumicis, Schum. Uncommon.
U. trifolii, Alb. and Schw. Keston.

Group 2.—Tremellineæ.

No recent records; see general remarks under Fungi.

Class III.—HEMIBASIDIOMYCETES.

(See remarks under UREDINEÆ.)

USTILAGO antherarum, Fr. (VIOLACEA). Common on anthers of Caryophs (Silenoideæ), Avery Hill.
U. carbo, Tul. On the smaller grasses, Avery Hill.
UROCYSTIS violæ, B. & Br. On pansies, Avery Hill.

Section II.—ASCOMYCETES.

(See remarks under UREDINEÆ.)

Group 1.—Discomycetes.

MORCHELLA esculenta, Pers. Common; Elmstead Lane Coppice; orchard, Avery Hill (sporadically).
HELVELLA crispa, Fr. Crown Woods, Eltham; Shooter's Hill, J.F.B.
VERPA conica, Sw. Rare; Keston Common.
MITRULA paludosa, Fr. Common on decaying wood; Avery Hill, Keston bog.
M. cucullata, Fr. On decaying pine leaves, Eltham.
PEZIZA acetabulum, L. On wet ground; fields, Avery Hill.
P. aurantia, Oed. On decaying wood (doors of pig-styes, etc.), Eltham.
P. cerea, Sow. On the ground, coppice, Elmstead Lane.
P. coccinia, Jacq. On hazel twigs, Crown Woods.
BULGARIA polymorpha, Wett. Very common on dead and fallen poplars, etc, Eltham, Catford.
RHYTISMA acerinum, Pers. On sycamores, Holwood Park; common, Bickley.

Group 2.—Perisporieæ.

SPHÆROTHECA humuli, (DC.), Schrot. Common on hops.

ERYSIPHE graminis, DC. Common on grasses.

ASPERGILLUS (EUROTIUM) herbariorum, Wiggers. Common in herbaria.

A. glaucus, De Bary. Common mould on cheese, jam, etc. (= **A. herbariorum,** Wigg.).

PENICILLIUM crustaceum, Fr. A common blue-green mould on bread, etc.

Group 3.—Pyrenomycetes.

XYLARIA polymorpha, Grev. On decaying wood, Crown Woods, Eltham.

X. hypoxylon, Grev. Very common on stumps.

HYPOXYLON coccineum, Bull. Common on various dead woods (beech).

LASIOSPHÆRIA rhacodium, (Pers.), Ces. et de Not. Often under the lifting bark of dead wood, Crown Woods, Eltham.

POLYSTIGMA rubrum, Fr. On cherry and plum ; very common in Kent.

NECTRIA cinnabarina, Tode. Common on dead twigs, Plumstead, J.F.B.

TROCHILA ilicis, Cronan. Common under holly bushes.

T. laurocerasi, Fries. Common under laurels.

Group 4.—Protoascineæ.

EXOASCUS deformans (Berk.), Fuck. (Witches' Broom). Common on birches.

Section III.—PHYCOMYCETES.

(See remarks under Uredineæ).

Group 1.—Zygomycetes.

MUCOR mucedo, L. Very common on bread, jam, etc.

THAMNIDIUM chætocladioides, Bref. On rabbits' dung, Cator Estate, Shortlands. R. Beer.

SPORODINIA aspergillus, (Scop.), Schrot. On agarics, Boletus, etc. ; common.

PILOBOLUS crystallinus, Tode. On sheeps' dung, etc. ; common.

EMPUSA muscæ, F. Cohn. On dead flies ; common in autumn.

Group 2.—Oomycetes.

CYSTOPUS (ALBUGO) candidus, Lév. Very common on Shepherd's Purse.

C. (Albugo) tragapogonis, (Pers.), S. F. Gray. Common on goats-beard.

PHYTOPHTHORA infestans, (Mont.), D.By. Very common on potatoes.

PERONOSPORA parasitica, (Pers.), Tul. Associated with Cystopus on Shepherd's Purse and other Crucifers.

SAPROLEGNIA ferax, Kütz. On goldfish, Avery Hill.

PYTHIUM de Baryanum, Hesse. The "damping-off" disease on seedlings; very common.

P. proliferum, D.By. On dead insects in stagnant water; very common.

(Additional *Coprophilous Fungi* contributed by Rudolf Beer, F.L.S.):—

ASCOPHANUS carneus, Boud., var. **cuniculi,** Boud. On rabbits' dung, Shortlands.

A. equinus, Mass. On horse-dung, Shortlands.

A. immersus, Pers. On horse-dung, Shortlands.

COEMANSIELLA alabastrina, Sacc. On horse-dung, Cator Estate, Shortlands. This record is an addition to the British Flora. It has only been found twice before, in 1862 in Belgium, and again in France in 1873. Since then it had been lost sight of till the present record. (*Journal of Botany*, vol. 40, 1902, p. 169).

PILOBOLUS crystallinus (Wiggers), Tode. On cow-dung, Bickley.

SACCOBOLUS neglectus, Boud. Shortlands.

STILBELLA erythrocephala (Ditm.), Lindau. On rabbits' dung, Cator Estate, Shortlands.

STYSANUS stemonites (Pers.), Corda. On horse-dung, Shortlands.

MYXOMYCETES.

(Mycetozoa, or Slime-Fungi).

ARCYRIA albida, Pers. Bickley. R. Beer.

A. ferruginea, Sauter. On dead wood, Eltham. L.C.C.

A. incarnata, Pers. Orpington. R. Beer.

BADHAMIA macrocarpa, Rost. Bickley. R. Beer.

B. utricularis, Berk. On woody fungi, dead wood; common.

COMATRICHA obtusata, Preuss. Common on dead wood, Eltham.

FULIGO septica, Gmel. On old rotten tan ; common.

PERICHÆNA variabilis, Rost. Bickley. R. Beer.

PHYSARUM cinereum, Pers. Bickley. R. Beer.

P. leucopus, Link. On dead leaves, Eltham. L.C.C.

STEMONITIS fusca, Roth. On dead wood, common, Eltham.

TRICHIA fallax, Pers. Lock's Bottom. R. Beer.

T. varia, Pers. Orpington. R. Beer.

DIVISION B.—LICHENS.

There are not many lichens in the near neighbourhood of London, smoke being fatal to their development. But away from the towns they are fairly represented, though very little attention has been paid to them in our districts. The following records have been taken from papers on the *Cryptogamic Flora of Kent* by E. M. Holmes, F.L.S., published in the *Journal of Botany* in 1878, and in the *Victorian History of Kent*, now in course of preparation. The records with no authority attached are Mr Holmes's ; the rest have their sources indicated. I have also included some of the commoner lichens, which, while they occur in West Kent, have not yet been recorded within our district, though doubtlessly they are to be found there. The arrangement followed is chiefly that of the Third Edition of Leighton's *Lichen Flora of Britain.*

Class I.—COLLEMACEI.

COLLEMA cheileum, Ach. Old walls and limestone banks and roadsides ; frequent.

C. crispum, Ach. On walls in damp shady lanes ; frequent. Chelsfield.

C. glaucescens, Hoffm. Damp mossy roadsides ; rare. Chelsfield.

C. nigrescens, Ach. On exposed tree-trunks in damp places. Near Halstead (with apothecia).

C. pulposum, Ach. On damp clayey banks ; common. Near Keston Common.
var. **ceranoides**, Borrer. On chalk bank near High Elms, Chelsfield.

COLLEMODIUM Schraderi, Nyl. On mud-capped limestone walls among mosses, and on rubble heaps in chalk-pits ; frequent. In fruit at Shoreham and Chelsfield.

C. turgidum, Nyl. On old mossy walls and in chalk-pits ; frequent.

LEPTOGIUM lacerum, Ach. Among moss on damp banks ; not infrequent. Eynsford.

Class II.—LICHENACEI.

Group 1.—Caliciei.

CONIOCYBE furfuracea, Ach. On tree-roots and sandy ground; rare. In the sand-caves at Chislehurst. Howse.

TRACHYLIA tympanella, Fr. On old posts and palings; common.

Group 2.—Bæomyceæi.

BÆOMYCES roseus, Pers. On bare spots among heath; frequent.

B. rufus, DC. On exposed clayey banks in woods and on damp roadsides; frequent.

CLADONIA degenerans, Flk., var. **amœna,** Ach. Woolwich Heath, Sir J. E. Smith.

C. delicata, Flk. On roots of trees or decayed stumps in woods, frequent. Stone Wood near Greenhithe; on an old railing near Chelsfield.

C. fimbriata, Fr. Greenhithe.

C. macilenta, Hoffm. On turfy heaths: frequent. Abbey Wood.

C. pyxidata, Fr. Common everywhere. Abbey Wood, Sydenham, etc.

CLADINA rangiferina, Hoffm. Common in heathy places. Exceedingly abundant and very fine on Keston Common among the heath. Blackheath and near Woolwich (Dillenius in Ray, Syn., 1724), Keston Common (Fl. Met., 1836), Chislehurst Common.

Group 3.—Ramalinei.

RAMALINA calicaris, Hoffm., var. **canaliculata,** Fr. Frequent on trees in parks.

R. everioides, Nyl. Frequent on palings and trees in parks.

R. farinacea, Ach. On trees; frequent. Bexley, Crofton Woods.

R. fastigiata, Ach. On trees and bushes; common. Crofton Woods, Chelsfield.

R. fraxinea, Ach. On trees, common. Crofton Woods.

Group 4.—Usnei.

USNEA barbata, Fr., var. **rubiginea,** Ach. On trees in damp places; frequent; the commonest form in this country.

Group 5.—Parmeliei.

EVERNIA prunastri, Ach. On trees and palings; common. Abbey Wood; one of the few foliaceous lichens that approach within ten miles of London.

PARMELIA Borreri, Turn. On trees ; frequent. Bexley.

P. caperata, Ach. On trees and palings ; very common. Bexley, Swanscombe Wood.

P. lævigata, Ach. On trees (especially firs), rocks and walls; frequent. High Elms near Chelsfield.

P. olivacea, L. On trees and palings ; one of the commonest lichens, and one of the few within reach of London smoke. Abbey Wood ; Sidcup.

P. perlata, Ach. On trees, rocks, and walls ; common. Bexley.

P. physodes, Ach. Common on old palings, fir trees, etc. Abbey Wood.

P. tiliacea, Ach. On trees, especially those with a smooth bark. Eynsford.

Group 6.—Stictei.

PELTIGERA canina, Hoffm. On hedgebanks and among moss in woods ; com. Abbey Wood, Hayes Common, Bexley, etc.

P. polydactyla, Hoffm. On damp mossy banks in hilly districts. Halstead ; Ide Hill.

Group 7.—Physciei.

PHYSCIA cæsia, Nyl. On trees. Cobham.

P. ciliaris, DC. On trees ; frequent, especially in parks and roadsides.

P. lychnea, Nyl. On walls and trees. Chelsfield, Lullingstone Park.

P. obscura, Ehrh. Common on elm trees, etc.

var. **virella,** Ach. Bexley, Shoreham, Chelsfield.

var. **adglutinata**, Flk. Lullingstone Park.

P. parietina, L. On walls and trees ; common.

P. pulverulenta, Nyl. On trees ; common.
sub-sp. **pityrea,** Nyl. Lullingstone Park ; Chelsfield.

P. stellaris, Nyl., sub-sp. **tenella,** Nyl. On trees and bushes ; very common. Sidcup, Chelsfield.

Group 8.—Lecanorei.

PLACODIUM callopismum, Mudd. On walls and rocks ; less frequent than murorum. Bexley.

P. decipiens, Leight. On old walls ; frequent in Kent. Abundant on walls of Eynsford Castle ; Shoreham.

P. murorum, Leight. On walls, rocks, etc. ; common. Bexley, etc.

CANDELARIA laciniosa, Nyl. Rare. Shoreham.

LECANORA citrina, Ach. On walls, rocks, etc. Bexley.

L. albella, Nyl. On trees. Bexley.

L. allophana, Nyl. On trees ; very common. Bexley, Blackheath (Fl. Met., 1836).

L. atra, Ach. On walls, rocks, etc. ; common. Bexley.

L. aurantiaca, Nyl. On ash and other trees ; rather rare in Kent. Chislehurst, Halstead.

L. cerina, Ach. On old wooden gates and rails ; frequent. On trees in Lullingstone Park.

L. exigua, Nyl. On old oaks, etc. Chelsfield.

L. galactina, Ach. On walls and rocks about farms, etc. ; common.

L. pallescens, Nyl. On flints, Shoreham.

L. parisiensis, Nyl. On trees. Chelsfield, Shoreham.

L. pyracea, Ach. (ULMICOLA, DC.). On elm trees in parks, etc., especially where moisture has formed a track down the trunk ; frequent. Eynsford, Lullingstone Park.

L. subfusca, Nyl. On trees ; common everywhere. Bexley.

L. symmicta, Ach. On palings near railway station, Shoreham

L. varia, Ach. On trees, palings. walls, etc. ; common. Greenhithe.

PERTUSARIA communis, DC. On trees ; frequent.

P. faginea, L. On trees, gates, flints ; very common. Joyden's Wood ; Shoreham (on flints and trees).

P. fallax, Pers. On trees ; v. com. Paul's Cray Common. Howse.

P. globulifera, Nyl. On large trees ; very common.

F. leioplaca, Schær. On young oaks in woods and coppices ; frequent.

P. velata, Nyl. On trees in damp places ; comparatively common in Kent, though considered rare in other places.

PHLYCTIS agelæa, Kœrb. On trees in woods ; common.

P. argena, Kœrb. On trees ; frequent. Joyden's Wood.

URCEOLARIA scruposa, Ach. On old walls, mosses, rocks, etc. ; common. Wall near Hayes Common.

LECIDEA albo-atra, Hoffm. On old elm-trees ; frequent. Near Eynsford Station.

L. aromatica, Sm. On old walls ; frequent.

L. calcivora, Ehrh. On chalk and calcareous rocks. Charlton Wood chalk-pit (Fl. Met., 1836, and Holmes).

L. canescens, Dicks. On trees, rocks, walls, etc. Bexley.

L. decolorans, Flk. On the ground in hilly districts; frequent. Pauls Cray Common. Howse.
var. **aporetica,** Kœrb. Abbey Wood, Hanbury.

L. effusa, var. **cæsio-pruinosa,** Mudd. Frequent on elder trees.

L. melæna, Nyl. On roots of trees and chalky banks; frequent. Chelsfield, Shoreham.

L. myriocarpa, DC. On old trees; common. Northfleet; Crofton Woods.

L. ostreata, Hoffm. On old palings, rarely on trees; frequent. Keston Common.

L. parasema, Ach., var. **elæochroma,** Ach. On trees and old palings. Bexley, Chelsfield.

L. quernea, Dicks. On decomposing posts and palings and old trees; frequent. Bexley; Chislehurst.

L. rosella, Pers. On trees; rare. On the root of an ash tree in hedge near Chelsfield.

L. rubella, Ehrh. On elm trees; common. Chelsfield; Lullingstone Park.

L. spododes, Nyl. On old palings; rare. Between Cuxton and Cobham, sparingly.

L. tricolor, With. On oak and birch trees; rather common, Joyden's Wood; Swanscombe Wood; Halstead.

L. uliginosa, Schrad. On damp turfy earth in woods and on commons; frequent. Dartford Brent; Joyden's Wood.

Group 9.—Graphidiei.

ARTHONIA pruinosa, Ach. On old trees; not common. Lullingstone Park, Cobham Park.

GRAPHIS scripta, Ach. On coppice oaks, etc.; frequent.

OPEGRAPHA lyncea, Sm. On old oaks; rare in Kent. Cobham Park (very fine and abundant).

O. varia, Pers., *f.* **notha,** Ach. On old trees. Near Eynsford Viaduct; Lullingstone Park.

O. viridis, Pers. On old trees; common in Kent. On trees near Cobham Park; farm, Orpington; Eynsford. Frequent on the thin easily separating bark of yew trees.

STIGMATIDIUM crassum, Dub. On old trees; common. Chislehurst.

Group 10.—Pyrenocarpei.

VERRUCARIA gemmata, Ach. On trees; frequent.

V. glaucina, Ach. On calcareous walls; frequent. Abbey Wood.

V. nigrescens, Pers. On walls, rocks, roots of trees; frequent.

DIVISION C.—ALGÆ.

Section I.—SALTWATER OR MARINE ALGÆ.

Quite a number of marine Algæ (Fucus vesiculosus, Ulva, etc.) ascend the estuary of the Thames as far as Gravesend, and a few perhaps beyond, but we have no records. The shore from the Isle of Grain to Gravesend should be explored.

Section II.—FRESHWATER ALGÆ.

The records for our districts are scanty and principally derived from the following sources :—

1. Rudolf Beer, F.L.S., Bromley Naturalists' Society, 1883–1894 and 1900–1901, for the Bromley and Keston districts.
2. L.C.C. Botany Department, Avery Hill, 1906–1907, for the Eltham district.

The arrangement and, as far as possible, the nomenclature are those of the "*British Freshwater Algæ*," by G. S. West, 1904.

Class I.—RED ALGÆ (Rhodophyceæ).

BATRACHOSPERMUM moniliforme, Roth. Keston; now difficult to find, owing to the cleaning out of Cæsar's Well, in which it formerly grew.

Class II.—BROWN ALGÆ (Phæophyceæ).

(No records.)

Class III.—CHARALES.

(See Characeæ, Hanbury and Marshall's *Flora.*)

CHARA hispida, L. Bromley (J. Groves).

C. vulgaris, L. Plumstead Marshes, Bromley (J. Groves); pond by the roadside between Eltham and Chislehurst (Dod); ditches in the Thames flats (1877); Long Pond, near brickfield, Eltham, '07, L.C.C.

C. vulgaris, var. **longibracteata,** Kütz. Plumstead Marshes, near Abbey Wood; between there and Crossness (Dod); pond near Sherden Farmhouse, Edenbridge (Salmon); ditch, Swanscombe Marshes, 1901, W.H.G.

C. vulgaris, var. **pappillata,** Wallr. Common in dykes near the sea. Plumstead Marshes (Groves); marshes between Abbey Wood and Crossness (Dod).

TOLYPELLA glomerata, Leonh. Very rare; Plumstead Marshes, 1875, Jackson and H. & J. Groves (a first record).

Class IV.—GREEN ALGÆ (Chlorophyceæ).

Group 1.—Œdogoniales.

OEDOGONIUM rostellatum, Prings Bickley, '00.

Group 2.—Chætophorales.

BULBOCHÆTE *sp.* (?). Keston, '01.

ULOTHRIX zonata, Kütz. Common in gutters, etc.

STIGEOCLONIUM tenue, Kütz. Bickley, Bromley, etc., '01.

HERPOSTEIRON confervicola, Nag. Bickley, '01.

CHÆTOPHORA incrussata, Hazen. Keston Ponds, L.C.C.

C. pisiformis, Ag. Bromley.

C. tenue. Keston Ponds, L.C.C.

DRAPANALDIA glomerata, Ag. Keston Ponds, L.C.C.

D. plumosa, Ag. Keston, '84.

Group 3.—Ulvales.

ENTEROMORPHA intestinalis, L. On piles of Woolwich Ferry, '07, J.F.B.

Group 4.—Schizogoniales.

SCHIZOGONIUM murale, Kütz. Common under walls and between damp paving stones.

Group 5.—Microsporales.

MICROSPORA *sp.* (?) Common (R. Beer).

Group 6.—Cladophorales.

CLADOPHORA glomerata, Kütz. Common in streams (Cray).

Group 7.—Siphoneæ.

VAUCHERIA dichotoma, Ag. Ditches east of Gravesend, L.C.C.

V. aversa, Hass. Ponds, Eltham.

V. sessilis, DC. Common in springs, wet places, damp greenhouses.

V. terrestris, Lyngb. Hayes, '01.

Group 8.—Conjugatæ.

N.O. 1. *ZYGNEMACEÆ.*

MOUGEOTIA parvula, Hass. Keston, '83.

GONATONEMA Boodlei, W. and G. West. Long Pond, Eltham; rare.

SPIROGYRA majuscula, Kütz. Eltham.
S. nitida, Link. Hayes.
S. varians, (Hassel), Kütz. Westerham, '01.

N.O. 2. DESMIDIACEÆ.

CLOSTERIUM acerosum, Ehr. Bromley.
C. Leibleinii, Kütz. Keston.
C. lunale, Ehrh. Common.
C. moniliforme, Ehr. Bromley.
C. rostratum, Ehr. Bromley.
C. striolatum, Ehr. Keston, '84.
C. turgidum, Ehr. Keston, '83.
COSMARIUM botrytis, Menegh. Bromley.
C. cucurbita, Bréb. Keston, '83.
C. margaritiferum, Menegh. Keston, '84.
C. Ralfsii, Bréb. Keston, '84.
CYLINDROCYSTIS brebissonii, Menegh. Keston, '85 (May).
DOCIDIUM baculum, Bréb. Keston, '92 (Oct.).
EUASTRUM ansatum, Ralfs. Keston, '92. (Oct.).
E. binale, Ehr. Keston, '83. (May).
E. didelta, Ralfs. Keston (May).
E. oblongum, Ralfs. Bromley (May).
HYALOTHECA dissiliens, Bréb. Keston, '89 (Sept.).
MICRASTERIAS denticulata, Bréb. Keston, '84 (May).
M. rotata, Ralfs. Keston, '84 (May).
NETRIUM digitus, Itzig. and Rothe. Keston, '92 (Oct.).
PENIUM margaritaceum, Bréb. Keston, '83. (May).
PLEUROTÆNIUM ehrenbergii, De Bary. Bromley.
P. truncatum, Nag. Bromley.
SPIROTÆNIA condensata, Bréb. Keston, '89 (Sept.).
STAURASTRUM dejectum, Rabh. Keston, '94 (Feb.).
S. gracile, Ralfs. Keston, '94 (Feb.).
TETMEMORUS granulatus, Ralfs. Hayes, '86 (Sept.).
XANTHIDIUM armatum, Rab. Keston, '84 (Sept.).

Group 9.—Protococcoideæ.

CHLAMYDOMONAS ehrenbergii (?), Gorosch. Bickley, '00.

C. rheinhardi, Dangeard. Bickley, '00.

SPHÆRELLA lacustris, Wittr. (HÆMATOCOCCUS PLUVIALIS). Very common in gutters and ditches everywhere.

CHLOROGONIUM euchlorum, Ehrh. Bickley, '00.

PANDORINA morum, Bory. Bromley ; long pond, Eltham ; Hayes Common.

GONIUM pectorale, Müll. Bickley and Keston, '01.

VOLVOX globator, Ehr. Fairly abundant, Bromley.

CHARACIUM acutum, A.Br. Bickley, '00.

C. ornithocephalum, A.Br. Bickley, '00.

PLEUROCOCCUS vulgaris, Menegh. (PROTOCOCCUS). Very common in damp places.

PEDIASTRUM boryanum, Menegh. Keston, '94 (Feb.).

CŒLASTRUM microporum, Nag. Keston, '94 (May).

SCENEDESMUS bijugatus, Kütz (OBTUSUS). Bickley, etc. ; com.

S. quadricauda, Bréb. Keston, '01.

ANKISTRODESMUS falcatus, Ralfs. (RHAPHIDIUM POLYMORPHUM, var. FALCATUM, Rab.). Keston, '85 (May).

NEPHROCYTIUM agardhianum, Nag. Keston, '00.

BOTRYOCOCCUS braunii, Kütz. Keston, '83 (May).

PALMELLA hyalina, Bréb. Bickley.

SCHIZOCHLAMYS gelatinosa, A. Br. Common in ponds, Eltham.

TETRASPORA lubrica, Ag. Keston, '83 (May).

APIOCYSTIS brauniana, Nag. Keston, '83 (May).

BOTRYDINA vulgaris, Bréb. Keston.

Class V.—HETEROKONTÆ.

BOTRYDIUM granulatum, L. Ash. L.C.C.

OPHIOCYTIUM cochleare, (Eichw.), A. Br. Not common. Bickley, Keston, '00.

TRIBONEMA bombycinum, Derb. and Sol. (CONFERVA). Keston.

Class VI.—BACILLARIEÆ (Diatoms).

No recent records. The only published records relate to Shoreham and Northfleet, published in the *Journal of Botany*, 1879.

Class VII.—BLUE-GREEN ALGÆ.

(Myxophyceæ, Schizophyceæ, Cyanophyceæ.)

ARTHROSPIRA jenneri, Stiz. Rare. Keston.

CHROOCOCCUS cohærens, Nag. Bickley.

NOSTOC commune, Vauch. Bromley; Hayes Common, L.C.C.

N. humifusum, Carm. Common in greenhouses.

OSCILLATORIA tenuis, Ag. Common on paths, under trees, etc.

CYLINDROSPERMUM stagnale, Born. and Flah. Pond, Eltham.

RIVULARIA hæmatites, Ag. Long Pond, Eltham.

ADDENDA.

The following maritime and submaritime Chenopods which ascend the estuary of the Thames generally as far as Gravesend were accidentally omitted:

(1309) Atriplex hastata, L. Frequent; prob. A. deltoidea, Bab. is the more common species inland. (1303) Chenopodium botryodes, Smith. Rare: Port Victoria (M. & Dod), first record, 1864:—Gravesend. (1313) Obione (Atriplex) portulacoides, Moq. Freq. (1315) Salicornia europæa, L. (herbacea, L.). Com. Isle of Grain. (1320) Salsola Kali, L. Abt., Isle of Grain.

The following additions and corrections are recorded by the authors from E. Wickham brickfields:—

Stachys annua, L.; Erigeron acris, L.; Euphorbia esula, L. var. b) pseudocyparissias, Jord., a large well-established clump; Arnica alpina, Olin & Lindau, alien, several plants; Linaria genistifolia, Mill. non DC., a huge Linaria 5 feet high, 1 plant; Centaurea napifolia, L., an escape; Melilotus indica, All. (parviflora, Desf.), an alien; Raphanus sativus, L., the cultivated Radish, escapes, several fine plants; Aster novi-belgii, L., a garden escape; Melilotus officinalis, L. A few plants in 2 spots, (first recorded by C. H. Grinling; compared with M. arvensis there are 500 plants of arvensis to 1 of officinalis); wild escapes of the Sunflower, Jerusalem Artichoke and Tomato.

Those who wish to connect Botany with Geology should provide themselves with a Drift Map, Ordnance Survey, London District, Sect. 4. The solid geological maps are of no value for botanical field work.

In bringing these records to a conclusion, we acknowledge the services rendered to us by Mr. C. H. Grinling, who has, with great care and acumen, reviewed the whole work from its inception to the last proof, and many of whose suggestions have been embodied in the foregoing pages, and by Mr. W. Williams, F.L.S., chief officer of the L.C.C. Botany Scheme Dept., Avery Hill, who has assisted us in many ways in all parts of the work.—J.F.B. & W.H.G.

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(See also Classification, p. 33.)

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N.B.—A full Index of Genera, etc., will be found at the end of the volume.

ZOOLOGY.

RECORDS FOR WOOLWICH AND WEST KENT.

Edited by J. W. Tutt, F.E.S.

Preface.

The Zoological Section of our "Handbook" has been somewhat hurried, and must suffer in consequence. Still, it is hoped that it will prove a sound and useful basis, on which something more thorough and complete can be constructed at leisure.

The gradual extension of the suburban districts has resulted in the destruction of many well-known collecting-grounds, the consequent extermination locally of many species, and, also, to a certain extent, an alteration in the balance of species. The latter feature has been particularly well illustrated in the gradual conversion of Greenwich Marshes into building land. Until 1887, a great deal of the Marshes retained much of its original character, and many exceedingly local species belonging to a distinctively "marsh" fauna abounded. During the next ten years, the filling up, with material dredged from the Thames, of the greater part of the marsh to a depth of from 6 ft.—12 ft., absolutely exterminated some insect species, but the temporary use of the land for the purpose of market gardens led to the development of countless numbers in other species, which were in quite ordinary numbers previously.

This destruction of particular and limited localities, however, has not resulted in anything like the absolute extermination of species throughout the whole area under review, that some of our

older local naturalists seem to think. True, a few large and conspicuous species have disappeared entirely; some birds and insects have been driven further from the London area, many have become comparatively rare, but one feels satisfied that the pathos in "now extinct," and similar notes, repeated frequently in some of our friends' lists, is due, often, to one of two causes, viz., either (1) their active collecting was done some years ago, and their more haphazard outings now naturally do not produce such good results as the more strenuous collecting of their younger days, in addition to which they themselves no longer make a point of noticing species not absolutely rare; or (2) they found their conclusions on a limited experience, and fancy that, because "Ichabod" is written on their old and favourite haunts, fairly easy may-be of access, similar ground farther out is equally unproductive, when, really, sufficient search has not been made to discover new haunts.

It is trusted, therefore, that the present lists will prove useful in two ways: (1) To form a basis to which additions, both in the matter of species and localities, may be made, and thus a more thorough knowledge of the local distribution of species be obtained. (2) To awaken fresh energy in the direction of enquiring into the changes now taking place in our fauna, what species are influenced beneficially, and what prejudicially, by the nearness of man; in short, to form a safe groundwork for the conclusions of future naturalists as to the real causes of the change of fauna, which the district under consideration is undergoing.

ORDERS OF ANIMALS.

I. **MAMMALIA** (Mammals).

II. **AVES** (Birds).

III. **REPTILIA** (Reptiles).

IV. **AMPHIBIA** (Amphibians).

V. **PISCES** (Fishes).

VI. **ARACHNIDA** (Spiders).

PSEUDOSCORPIONES (False Scorpions).

VII. **INSECTA** (Insects).

(A) HEMIPTERA (Bugs).

(1.) Heteroptera.

(2.) Homoptera.

(B) ODONATA (Dragonflies).

(C) COLEOPTERA (Beetles).

(D) LEPIDOPTERA (Butterflies and Moths).

1. Papilionides.
2. Urbicolides.
3. Sphingides.
4. Attacides.
5. Lachneides.
6. Lithosiides.
7. Eucheliides.
8. Arctiides.
9. Lymantriides.
10. Drepanulides.
11. Notodontides.
12. Noctuides.
13. Brephides.
14. Geometrides.
15. Deltoides.
16. Nolides.
17. Hylophilides.
18. Pyralides.
19. Crambides.
20. Alucitides.
21. Hepialides
22. Zeuzerides.
23. Cossides.
24. Aegeriides.
25. Eucleides.
26. Anthrocerides.
27. Tortricides.
28. Tineides.

(E) DIPTERA (Flies).

VIII. **MOLLUSCA** (Molluscs).

PART I.

MAMMALIA.

(Mammals.)

This list is compiled from the "List of Mammalia" in the "Fauna of Blackheath," published in 1859; the "List of the Mammals of Bromley, Kent," published by the Bromley Naturalists' Society in 1895; a "MS. List" from A. S. Kennard; and a "MS. List" from B. W. Adkin. It will be interesting to note that several species, now very rare or extinct in the area, were at one time even common in the heart of the district.

Probably if more lists were available from the outlying part of the area, a better view of the distribution would be obtained. The contractions used are as follows :—

B.W.A. = B. W. Adkin.
A.S.K. = A. S. Kennard.
Fn.B. = Fauna of Blackheath.
B.L. = Bromley List, mainly A. S. Kennard's records.

CHIROPTERA.

VESPERTILIONIDÆ.

Vesperugo noctula, Schreb. — Great Bat.—Common all over district, Hayes (A.S.K.); Lewisham, rare (B.W.A.).

Vesperugo serotinus, Schreb.—Serotine.—Occurs (Fn.B.).

Vesperugo pipistrellus, Schreb.—Common Bat.—Hayes (B.L.); Blackheath and district, very common (Fn.B.) and (B.W.A.).

Vesperugo leisleri, R.— Hairy-armed Bat.—Chislehurst (A.S.K.).

Vespertilio mystacinus, Leis.—Whiskered Bat.—Chislehurst (Fn.B.).

Vespertilio nattereri, R.—Natterer's Bat.—Chislehurst (A.S.K.).

Plecotus auritus, L.—Long-eared Bat.—Chislehurst (Fn.B.); Hayes (B.L.); Lewisham, fairly common (B.W.A.).; Beckenham, 1903 (A.S.K.).

Synotus barbastellus, Schreb.—Barbastelle.—Chislehurst (Fn. B.); Dartford (A.S.K.).

RHINOLOPHIDÆ.

Rhinolophus ferrum-equinum, Desm.—Greater Horseshoe Bat.—Hayes, 1904 (A.S.K.).

INSECTIVORA.

ERINACEIDÆ.

Erinaceus europæus, L.—Hedgehog.—Bromley (B.L.); Common (Fn.B.).

TALPIDÆ.

Talpa europæa, L.—Mole.—Generally distributed and common (B.W.A.); Bromley (B.L.).; white specimen, 1890, at Southend (A.S.K.).

SORICIDÆ.

Sorex vulgaris, L. — Common Shrew. — Common (A.S.K.); Bromley (B.L.); Blackheath district, Greenwich .Park and Shooter's Hill (Fn.B.).

Sorex minutus, L.—Lesser Shrew.—W. Wickham, 1906 (A.S.K.).

Crossopus fodiens, Pall.—Water Shrew.—Bromley, Sundridge Park (B.L.); Blackheath district, common (Fn.B.).

CARNIVORA.

CANIDÆ.

Canis vulpes, L.—Fox.—Bromley (B.L.); Blackheath, not uncommon formerly (Fn.B.); Bromley, rare (B.W.A.).

MUSTELIDÆ.

Mustela erminea, L.—Stoat.—Bromley (B.L.); Blackheath, not uncommon (Fn.B.). Rare at Bromley (B.W.A.)

Mustela vulgaris, Erxl.—Weasel.—Bromley (B.L.); Blackheath, common (Fn.B.).

Mustela putorius, L.—Polecat.—Formerly found in Crown and West Woods (Fn.B.).

Meles tanus, Bod.—Badger.—Eynsford, 1901 (A.S.K.).

RODENTIA.

SCIURIDÆ.

Sciurus vulgaris, L.—Squirrel.—Bromley (B.L.); not uncommon at Hayes and Keston (A.S.K.).

MYOXIDÆ

Muscardinus avellanarius, L.—Dormouse.—Bromley (B.L.); Blackheath district, common (Fn.B.); Swanley, Cudham, Keston (A.S.K.).

MURIDÆ.

Mus rattus, L.—Black Rat.—Blackheath district in a few places (Fn.B.).

Mus decumanus, Pall.—Brown Rat.—Common generally (B.W.A.); Bromley (B.L.); Blackheath district abundant (Fn.B.)

Mus musculus, L.—Mouse.—Generally distributed and common.

Mus minutus, Pall.—Harvest Mouse.—Bromley (B.L.); Blackheath district not uncommon (Fn.B.).; Keston, Hayes (A.S.K.).

Mus sylvaticus, L.—Long-tailed Wood Mouse.—Bromley (B.L.); Blackheath district abundant (Fn.B.).

Microtus amphibius, L.—Water Vole.—Fairly common generally (B.W.A.); Bromley (B.L.); Blackheath district common (Fn.B.).

Microtus agrestis, L.—Field Vole.—Common (A.S.K.); Bromley (B.L.); Blackheath district common (Fn.B.).

Microtus glareolus, Schreb.—Bank Vole. — Common (A.S.K.); Bromley (B.L.).

LEPORIDÆ.

Lepus europæus, Pall.—Hare.—Fairly common (B.W.A.); Bromley (B.L.); Blackheath district formerly common (Fn.B.).

Lepus cuniculus, L.—Rabbit.—Generally common (B.W.A.); Bromley (B.L.); Blackheath district very common (Fn.B.).

UNGULATA.

CERVIDÆ.

Cervus dama, L.—Fallow Deer.—Greenwich Park.

CETACEA.

BALÆNIDÆ.

Megaptera boops, Fabr.—Northern Rorqual.—Deptford Creek, 1842 (Fn.B.).

PHYSETERIDÆ.

Physeter macrocephalus, L.—Common Cachelot.—Hope Point, 1788 (Fn.B.).

DELPHINIDÆ.

Phocæna communis, Less.—Porpoise.—Greenwich and Deptford (Fn.B.).

Orca gladiator, Bonn —Grampus.—Opposite Greenwich Hospital, 1793 (Fn.B.).

PART II.

AVES.

(Birds.)

Compiled by Hy. J. Turner, F.E.S.

This list of Birds has been compiled with some difficulty, owing to the conflicting observations in the various lists available. While undoubtedly there are numerous errors and shortcomings in it, it is hoped that the list may be of use as a basis for future work. It will be remembered that some of the records are of historical interest rather than a statement of present day facts, especially those from the "Fauna of Blackheath," published in 1859. The works, and private MS. Lists, which have been consulted are :— "Fauna of Blackheath and its Vicinity," 1859; "MS. List of Birds," observed by the Rev. S. G. Scott, from his garden at the Rectory, Woolwich, during the years 1883–92; "Birds of my Garden," by W. Groves, of Shortlands, in the "Report of the N. Kent Nat. Hist. Soc., 1889–90"; "The Birds of London," by H. K. Swann, 1893; "List of Birds of Bromley," by A. E. Collinge and A. S. Kennard, for the Bromley Naturalists' Society, 1895; "Birds in London," by W. H. Hudson, 1898; "The Birds of Bromley, Kent," by J. A. Walpole Bond, 1901; List of Birds observed in Greenwich Park from "History of Greenwich Park," by A. D. Webster, 1902; "A List of Birds observed at the 'Cedars,' Lee," by J. F. Green; "Ann. Report of the N. Kent Nat. Hist. Soc., 1903–4;" "MS. List of Birds of the District," by B. W. Adkin, of Bromley; "A short List of Birds," noted by C. R. Boxer, of Eltham; "A Catalogue of Birds of the W. Kent District," by A. P. Macklin, in the Register of the Catford and District Nat. Hist. Soc.; "A few Notes on Woolwich Birds," in litt. by W. H. Parker; and "The Birds of the Dartford District," by W. J. Davis.

B.W.A.=B. W. Adkin.
J.A.W.B.=J. A. Walpole Bond.
C.R.B.=C. R. Boxer.
W.J.D.=W. J. Davis.
J.F.G.=J. F. Green.
W.G.=W. Groves.
H.=W. H. Hudson's "Birds of London."
A.P.M.=A. P. Macklin.
W.H.P.=W. H. Parker.
S.G.S.=S. G. Scott.
J.W.T.=J. W. Tutt.
A.D.W.=A. D. Webster.
Fn. B.="Fauna of Blackheath."
B.L.=List of Bromley Nat. Soc.
S.=Swann's "Birds of London."

The arrangement and nomenclature of species is that of Howard Saunders' "British Birds."

PASSERES.

TURDIDÆ.

Turdus viscivorus, L.—Missel Thrush.—Generally distributed. Greenwich Park (A.D.W.); Woolwich Rectory (S.G.S.); in early spring song heard more frequently than that of any other bird (A.P.M.).

Turdus musicus, L.—Song Thrush.—Generally distributed and common. Greenwich Park (A.D.W.); Woolwich Rectory (S.G.S.); Westcombe Park, Lewisham, Lee, etc., still abundant (J.W.T.); greatly exceeding the Blackbird in numbers in the more populated parts of the district (A.P.M.); Dartford, one of the commonest nests (W.J.D.).

Turdus iliacus, L.—Redwing.—In winter generally distributed. Greenwich Park (A.D.W.); Bromley, common (B.L.); Dartford Marshes (W.J.D.).

Turdus pilaris, L.—Fieldfare.—In winter. Fairly common generally (B.W.A.); Woolwich Rectory (S.G.S.); Greenwich Park (A.D.W.); Dartford, common (W.J.D.).

Turdus merula, L.—Blackbird.—Generally distributed and common. Greenwich Park (A.D.W.); Woolwich Rectory (S.G.S.); several pied ones in district (H.J.T.); Westcombe Park, Lewisham, Lee, etc., still very abundant (J.W.T.).

Turdus torquatus, L.—Ring Ouzel.—Catford, 1889 (B.L.); Blackheath, formerly (Fn.B.); Lee, 1902 (J.F.G.); Bromley, 1900; Sundridge Park (J.A.W.B.); Dartford Heath, occasionally (W.J.D.).

Saxicola œnanthe, L.—Wheatear.—Very noticeable on downs and pasture lands during migration in spring (A.P.M.); occurs throughout, especially along the banks of the Creek and the Thames (W.J.D.); Hayes, 1893 (B.L.); Blackheath and Burnt Ash (Fn.B.); Down (J.A.W.B.).

Pratincola rubetra, L.—Whinchat.—Distribution general on pastures and waste lands (A.P.M.); Dartford Marshes and Heath, fairly common (W.J.D.); Bromley, scarce (B.L.); generally distributed formerly (Fn.B.); Greenwich Park (A.D.W.).

Pratincola rubicola, L.—Stonechat.—Local, on commons and furze lands (A.P.M.); Dartford, fairly common (W.J.D.); Bromley, rare (B.L.); generally distributed formerly (Fn.B.); Greenwich Park (A.D.W.); Hayes Common (S.); Keston, breeds (J.A.W.B.).

Ruticilla phœnicurus, L.—Redstart.—Bromley, breeds even in the town. Greenwich Park, formerly common (Fn.B.); Greenwich Park (A.D.W.); Hayes Common (S.); Eltham, rare (B.W.A.); Woolwich Rectory (S.G.S.); Dartford, orchards, etc. (W.J.D.); Bostall Woods and Paul's Cray Common (A.P.M.).

Ruticilla titys, Scop.—Black Redstart.—Bromley (Fn.B.); Blackheath (S.); near Dartford (W.J.D.)

Cyanecula suecica, Linn.—Blue-throat.—Dartford Marsh, September 3rd, 1880 (W.J.D.).

Erithacus rube ula, L.—Redbreast.—Generally distributed, and common, the most familiar bird except the sparrow (W.J.D.); Greenwich Park (A.D.W.); Woolwich Rectory (S.G.S.); still abundant in Westcombe Park; and at Lee, Lewisham Chislehurst, etc. (J.W.T.).

Daulias luscinia, L.—Nightingale.—Widely distributed. Shooter's Hill, Blackheath, and Kidbrook (Fn.B.); Bromley, fairly common (B.L.); Greenwich Park (A.D.W.); Keston and Grove Park (C.R.B.); Hayes Common (S.); Shortlands (W.G.); Bostall Woods, breeds (H.); Lee, not since 1877 (J.F.G.); plentiful in the Cray valley, Farnborough district, and the wood near Ravensbourne (A.P.M.); Bexley district (J.W.T.); Dartford (W.J.D.).

Sylvia cinerea, Bech.—Whitethroat.—Fairly common generally (B.W.A.); Bromley, common (B.L.); G eenwich Park (A.D.W.); Lee (J.F.G.); Woolwich Rectory (S.G.S.); Hayes, fairly abundant (J.A.W.B.); one of the most plentiful of the summer migrants (A.P.M.); Dartford lanes and marshes, common (W.J.D.).

Sylvia curruca, L.—Lesser Whitethroat.—Fairly common generally (B.W.A.); Bromley, common (B.L.); Blackheath (Fn.B.); Lee (J.F.G.); Woolwich Rectory (S.G.S.); Dartford, fairly common (W.J.D.)

Sylvia atricapilla, L.—Blackcap.—Fairly common generally (B.W.A.); Bromley, common (B.L.); Blackheath (Fn.B.); Greenwich Park (A.D.W.); Lee, breeds (J.F.G.); Woolwich Rectory (S.G.S.); Dartford (W.J.D.)

Sylvia hortensis, Bech.—Garden Warbler.—Bromley, fairly common (B.L.); Kidbrook (Fn.B.); Greenwich Park (A.D.W.); Lee (J.F.G.); Lewisham, rare (B.W.A.); Dartford, not uncommon (W.J.D.)

Sylvia undata, Bod.—Dartford Warbler.—Hayes 1893 (B.L.); Bexley Heath, formerly (Fn.B.) This was the original locality of this species, the first specimens being obtained here by Dr. Latham in 1773. It does not appear to have been observed around Dartford for very many years. Mr. Rennie reports that in 1830 it occurred on Blackheath, but no more recent record has been traced.

Regulus cristatus, Koch.—Golden-crested Wren.—Fairly common generally (B.W.A.); Bromley, scarce (B.L.); Love Lane, Tanners Hill, Chislehurst (Fn.B.); Greenwich Park (A.D.W.); Shortlands (W.G.); Bostall Woods (H.); Lee, occasionally J.F.G.); breeds at Keston and Farnborough (A.P.M.); breeds Dartford Heath (W.J.D.).

Regulus ignicapillus, Brehm.—Fire-crested Wren.—Blackheath (Fn.B.); no authentic recent record (A.P.M.).

Phylloscopus rufus, Bech.—Chiffchaff. — Generally distributed (A.P.M.); Bromley, fairly common (B.L.); Blackheath (Fn.B.); Greenwich Park (A.D.W.); Lee (J.F.G.); Woolwich Rectory (S.G.S.); Dartford district (W.J.D.)

Phylloscopus trochilus, L.—Willow Wren.—Bromley, very common (J.A.W.B.); Blackheath, common (Fn.B.); Greenwich Park (A.D.W.); Lee, breeds (J.F.G.); Eltham, rare (B.W.A.); Woolwich Rectory (S.G.S.); Paul's Cray, very plentiful (A.P.M.); woods near Dartford, common (W.J.D.).

Phylloscopus sibilatrix, Bech.—Wood Wren.—Bromley, abundant (J.A.W.B.); Shooter's Hill (Fn.B.); Greenwich Park (A.D.W.); plentiful on Paul's Cray Common, Bexley and Cray district woods (A.P.M.); not so common around Dartford (W.J.D.).

Acrocephalus streperus, Vieil.—Reed Warbler.—Bromley, very rare (B.L.); distributed throughout Dartford Marshes and nests there (W.J.D.); Woolwich Marshes, formerly Lower Road Deptford (Fn.B.); Greenwich Park (A.D.W.); banks of Cray and Darenth (A.P.M.).

Acrocephalus phragmitis, Bech.—Sedge Warbler.—Keston, 1894 (B.L.); Lee and Charlton, not uncommon formerly (Fn.B.); Greenwich Park (A.D.W.); Bromley, a few (J.A.W.B.); confined to portions of the Cray and Darenth and to the marshes bordering the Thames (A.P.M.); very common in Dartford Marshes (W.J.D.).

Locustella nævia, Bod.—Grasshopper Warbler.—Local; seldom seen but more often heard (A.P.M.); Bromley, rare (B.L.); Rushy Green, Shooter's Hill, and Kidbrook (Fn.B.); Keston, in migration (J.A.W.B.); Dartford Heath (W.J.D.).

Locustella luscinioides, Savi.—Savi's Warbler.—Extinct. Erith, nested 1853 (Fn.B.).

Accentor modularis, L.—Hedge Sparrow.—Generally distributed and common everywhere. Greenwich Park (A.D.W.); Woolwich Rectory (S.G.S.).

PANURIDÆ.

Panurus biarmicus, L.—Bearded Tit.—Charlton (Fn.B.); Woolwich Rectory (S.G.S.).

PARIDÆ.

Acredula caudata, L.—Long-tailed Tit.—Fairly common generally (B.W.A.); Blackheath (Fn. B.); Greenwich Park (Fn.B. & A.D.W.); Chislehurst (C.R.B.): Bromley, rare (J.A.W.B.); very plentiful, in the wooded parts (A.P.M.); Dartford Heath (W.J.D.).

Parus major, L.—Great Tit.—Abundant particularly in the fruit districts (A.P.M.); Dartford, common (W.J.D.); Bromley, common (B.L.); common through district formerly (Fn.B.); Greenwich Park (Fn.B. & A.D.W.); Shortlands (W.G.); Lee (J.F.G.); Woolwich Rectory (S.G.S.).

Parus ater, L.—Coal Tit.—Somewhat sparsely distributed and least frequent of the family (A.P.M.); Dartford (W.J.D.); Bromley, common (B.L.); Greenwich Park (Fn.B. & A.D.W.); Keston, 1891 (S.); Lee, 1903, (J.F.G.); Common generally B.W.A.),

Parus palustris, L.—Marsh Tit.—Generally distributed, nesting near water and in marshy situations, in a willow or alder (A.P.M.); Dartford Marshes, local (W.J.D.); rare generally (B.W.A.); Bromley, rarely seen but breeds (J.A.W.B.); Greenwich Park (Fn.B. & A.D.W.); Woolwich Rectory (S.G.S.).

Parus cæruleus, L.—Blue Tit.—Generally distributed, Greenwich Park (Fn.B. & A.D.W.); Woolwich Rectory (S.G.S.); still occurs in Westcombe Park, Lee, Lewisham, &c. (J.W.T.); Dartford, in the town (W.J.D.). Often seen in gardens in Wood Street, Woolwich (W.H.P.)

SITTIDÆ.

Sitta cæsia, Wolf.—Nuthatch.—Fairly common, generally (B.W.A.); Bromley, abundant and nests freely (J.A.W.B.); Greenwich Park (A.D.W.); Shortlands (W.G.); Lee, breeds (J.F.G.); Bostal Woods (H.); Chislehurst, the Crays, and Keston (A.P.M.); Dartford, woods, not common (W.J.D.)

TROGLODYTIDÆ.

Troglodytes parvulus, Koch.—Wren.—Generally distributed (B.W.A.); Bromley, fairly common (B.L.); Greenwich Park (Fn.B.), (A.D.W.); Lee and Grove Park (C.R.B.); Bostal Woods (H.); Lee, breeds (J.F.G.); Woolwich Rectory (S.G.S.); still occurs at Shooter's Hill, Grove Park, Chislehurst, etc. (J.W.T.): plentiful in all parts (A.P.M.); gardens in Woolwich (W.H.P.).

CERTHIIDÆ.

Certhia familiaris, L.—Tree-creeper.—Fairly common generally, (B.W.A.); Greenwich Park (A.D.W.); Bostal Woods (H.); Lee (J.F.G.); Sundridge Park, especially common (J.A.W.B); nowhere very plentiful (A.P.M.); Dartford lanes, occasionally (W.J.D.).

MOTACILLIDÆ.

Motacilla lugubris, Tem.—Pied Wagtail.—Fairly common generally (B.W.A.); Bromley, common (B.L.); Blackheath (Fn.B.); Greenwich Park (A.D.W.); Eltham (C.R.B.); Lee (J.F.G.); Woolwich Rectory (S.G.S.); Chislehurst, nest, 1901 (J.A.W.B.); Dartford, common (W.J.D.).

Motacilla alba, L.—White Wagtail.—Reported from various districts (A.P.M.); Elmer's End, 1889 (B.L.).

Motacilla melanope, Pall.—Grey Wagtail.—Winter visitor to the Ravensbourne and Cray, and to the Thames Marshes (A.P.M.); Dartford marshes and ponds (W.J.D.); Bromley, rare (B.L.); Dartford (F.B.); Greenwich Park (A.D.W.); Lee, 1904 (C.R.B.); Hayes Common and Beckenham (S.); Woolwich Rectory (S.G.S.).

Motacilla raii, Bona.—Yellow Wagtail.—Plentiful on the Thames Marshes, where it nests (A.P.M.); Dartford Marshes and Creek (W.J.D.); Blackheath (Fn.B.); Greenwich Park (A.D.W.).

Anthus trivialis, L.—Tree-pipit.—Fairly common generally (B.W.A.) Dartford (W.J.D.); Bromley (B.L.); Blackheath (Fn.B.); Greenwich Park (A.D.W.).

Anthus pratensis, L.—Meadow-pipit.—Fairry common generally (B.W.A.); Bromley, common (B.L.); Blackheath (Fn.B.); Hayes Common (S.); Woolwich Rectory (S.G.S.); not so widely distributed as the previous species (A.P.M.); Dartford, very common (W.J.D.).

ORIOLIDÆ.

Oriolus galbula, L.—Golden Oriole.—Eltham, 1853 (Fn.B.); reported seen near Dartford Brent (W.J.D.).

LANIIDÆ.

Lanius excubitor, L.—Great Grey Shrike.—Hayes, 1889 (B.L.); Bromley, Burnt Ash, Eltham, Chislehurst, (Fn.B.); Dartford Heath and Marshes, regular visitor (W.J.D.).

Lanius collurio, L.—Red-backed Shrike.—Nowhere very plentiful, cock bird partial to the telegraph wire (A.P.M.); Dartford Heath and Marshes (W.J.D.): fairly common generally (B.W.A.); Bromley, rare (B.L.); Shooter's Hill and Eltham (Fn.B.); Hayes Common (S.); Lee, 1903 (J.F.G.).

AMPELIDÆ.

Ampelis garrulus, L.—Waxwing.—Knockholt, 1890 (B.L.); Eltham, Lewisham (Fn.B.); Dartford, has occurred (W.J.D.).

MUSCICAPIDÆ.

Muscicapa grisola, L.—Spotted Flycatcher.—Fairly common generally (B.W.A.); Bromley, common (B.L.); Blackheath district, common (Fn.B.); Greenwich Park (A.D.W.); Lee (C.R.B.); Shortlands (W.G.); Woolwich Rectory (S.G.S.); Plaistow, nest, 1899 (J.A.W.B.); Dartford, common (W.J.D).

Muscicapa atricapilla, L.—Pied Flycatcher.—Blackheath, 1883 (B.L.); Bromley and Eltham (Fn.B.); Lee, 1888 (J.F.G.); near Bromley, nest (J.A.W.B.).

HIRUNDINIDÆ.

Hirundo rustica, L.—Swallow.—Fairly common generally (B.W.A.); Bromley, common (B.L.); Blackheath, abundant formerly (Fn.B.); Greenwich Park (A.D.W.); Lee, breeds (J.F.G.); Woolwich Rectory (S.G.S.); breeds freely through South-east suburban districts (J.W.T.); Dartford, common (W.J.D.).

Chelidon urbica, L.—Martin.—Throughout South-east surburban districts (J.W.T.); common generally (B.W.A.); Bromley, breeds (J.A.W.B.); Blackheath (Fn.B.); Greenwich (A.D.W.); Shortlands (W.G.); Lee (J.F.G.); Woolwich Rectory (S.G.S.); nests in many Woolwich streets (W.H.P.).

Cotile riparia, L.—Sand-martin.—Fairly common locally (B.W.A.); Bromley, scarce (B.L.); Blackheath (Fn.B.); Greenwich Park (A.D.W.); Woolwich Rectory (S.G.S.); by no means plentiful, several colonies recently deserted, e.g., Bexley, St Mary's Cray, etc. (A.P.M.); several large colonies near Dartford (W.J.D.).

FRINGILLIDÆ.

Ligurinus chloris, L.—Greenfinch.—The commonest of our finches, especially in fruit growing parts, large flocks in autumn (A.P.M.); fairly common (B.W.A.); Greenwich Park (A.D.W.); Lee, breeds (J.F.S.); Woolwich Rectory (S.G.S.); immense flocks in winter, Bromley (J.A.W.B.); Grove Park, Chislehurst, &c. (J.W.T.).; Eltham nest, 1907 (W.H.P.).

Coccothraustes vulgaris, Pall.—Hawfinch.—Local. Bromley, scarce (B.L.); Dartford, Bexley, Chislehurst, and Eltham (Fn.B.); Greenwich Park (A.D.W.); Lee, occasionally (J.F.G.); Keston, rare (B.W.A.); Shortlands and Sundridge, numerous nests (J.A.W.B.); Swanley, nests commonly (W.J.D.).

Carduelis elegans, Steph.—Goldfinch.—Chiefly seen in winter in flocks on waste land, breeding at Farnborough (A.P.M.); nests near Dartford (W.J.D.); fairly common generally (B.W.A.); Bromley, rare (B.L.); Blackheath (Fn.B.); Greenwich Park (A.D.W.); Lewisham (S.).

Chrysomitris spinus, L.—Siskin.—Winter visitor, feeds on seeds of the alder (A.P.M.); Dartford Powder Mills (W.J.D.); Bromley, very rare (J.A.W.B.); Lewisham and Lee (Fn.B.); Greenwich Park (A.D.W.); Bostall Woods (H.); Woolwich Rectory (S.G.S.); Sundridge Park, a nest, 1901 (J.A.W.B.).

Passer domesticus, L.—House Sparrow.—Abundant everywhere pied examples at Bromley (J.A.W.B.); ditto Dartford (W.J.D.).; ditto Shooter's Hill (W.H.P.)

Passer montanus, L.—Tree Sparrow.—Local, nowhere numerous (A.P.M.); Dartford, not breeding (W.J.D.); Bromley, rare (B.L.); Greenwich Park (A.D.W.); Lee 1895 (J.F.G.).

Fringilla cœlebs, L. — Chaffinch. — Generally distributed and common, flocks at Chislehurst (C.R.B.); Lee, breeds (J.F.G.); Woolwich Rectory (S.G.S.); Westcombe Park, Lewisham, Grove Park (J.W.T.); breeds, Well Hall (W.H.P.).

Fringilla montifringilla, L.—Brambling.—Winter visitor, feeds in flocks on beech mast (A.P.M.); Dartford, common (W.J.D.); Bromley, rare, but regular winter visitor (J.A.W.B.); Greenwich (Fn.B.).

Acanthis cannabina, L.—Linnet.—Fairly common generally (B.W.A.); Bromley, rare (B.L.); on all furzy commons (Fn.B.); Greenwich Park (A.D.W.); Lee, a nest, 1902 (J.F.G.); Woolwich Rectory (S.G.S.); Chislehurst (J.W.T.); Dartford Heath and Brent, nests commonly (W.J.D.); Shooter's Hill, nest, 1904 (W.H.P.)

Acanthis linaria, L.—Mealy Redpole.—Occasionally found in hard seasons with the Lesser Redpole (A.P.M.).

Acanthis rufescens, Vieil.—Lesser Redpole.—Bromley, common (B.L.), a nest 1901 (J.A.W.B.); Blackheath district (Fn.B.); numerous in winter, but rarely breeds, nest at Farnborough in 1906 found by Mr. Goodchild (A.P.M.); Greenwich Park (A.D.W.); Dartford (W.J.D.).

Pyrrhula europæa, Vieil.—Bullfinch.—Plentiful in all the fruit growing area (A.P.M.); ditto Dartford (W.J.D.); Bromley, nests commonly (J.A.W.B.); Blackheath (Fn.B.); Greenwich Park (A.D.W.); Hayes Common (S.); Shortlands (W.G.); Lee breeds (J.F.G.); fairly common at Keston (B.W.A.).

Loxia curvirostra, L.—Crossbill.—Principally a winter visitor, but undoubtedly nests regularly at Keston; young often seen (A.P.M.); Hayes 1889 (B.L.); Dartford, rare (W.J.D.); Erith, and Bromley, formerly (Fn.B.); Greenwich Park (A.D.W.); Bromley, common (J.A.W.B.).

Emberiza melanocephala, Scop.—Black-headed Bunting.—Hither Green, *ante* 1859 (Fn.B.).

Emberiza miliaria, L.—Corn Bunting.—Local but fairly common (A.P.M.); Bromley, rare (B.L.); Dartford Marshes, nest (W.J.D.); Blackheath (Fn.B.); Greenwich Park (A.D.W.).

Emberiza citrinella, L.—Yellow Bunting.—Generally distributed; except in the fruit growing districts, where it is seldom met with (A.P.M.); all Dartford lanes, common (W.J.D.); Greenwich Park (A.D.W.); Hayes and Keston, plentiful (J.A.W.B.).

Emberiza cirlus, L.—Cirl Bunting.—Local and nowhere abundant (A.P.M.); St. Mary's Cray, nest 1898 (W.J.D.); Bromley, rare (B.L.); Eltham (Fn.B.); Lewisham, nest 1884 (S.); Keston (J.A.W.B.).

Emberiza schœniclus, L.—Reed Bunting.—In marshes; fairly plentiful near Dartford and in the Cray and Darenth Valley (A.P.M.); nests ditto (W.J.D.); Keston 1894 (B.L.).

Plectrophenax nivalis, L.—Snow Bunting.—One seen on Hilly Field, Brockley, in winter of 1905 (A.P.M.); Dartford, occurs (W.J.D.).

STURNIDÆ.

Sturnus vulgaris, L.—Starling.—Generally distributed, and breeding commonly everywhere.

Pastor roseus, L.—Rose-coloured Starling.—Norwood, many years ago (Fn.B.).

CORVIDÆ.

Garrulus glandarius, L.—Jay.—Numerous in all the wooded parts, although persecuted by keepers (A.P.M.); Bromley, common (B.L.); Blackheath (Fn.B.); Pett Wood, every year (C.R.B.); Lee, once (J.F.G.); Bromley, fairly common (B.W.A.).; breeds, Bostall Woods, private parts (W.H.P.).

Pica rustica, Scop.—Magpie.—All but exterminated by game preservers; repeatedly nesting near Farnborough, nest at Shoreham (A.P.M.); Beckenham, 1893 (B.L.); Blackheath, formerly (Fn.B.); Bostall Woods, breeds (H.); Lee, occasionally (J.F.G.); Bromley, practically extinct (J.A.W.B.); Dartford, not common (W.J.D.).

Corvus monedula, L.—Jackdaw.—Common generally (B.W.A.); Bromley, common (B.L.); Blackheath, common formerly (Fn.B.); Greenwich Park (A.D.W.), bred here recently, now disappeared (H.); Shortlands (W.G.); Lee, resident (J.F.G.); Woolwich Rectory (S.G.S); Elmstead, breeds; Sundridge Park (J.A.W.B.); a pair still breed every year in Gilmore Road or Wistaria Road, Lewisham; sometimes in one and sometimes the other (J.W.T.); small colonies at Eltham, Lullingstone Park, etc., where hollow trees abound (A.P.M.); Long Reach, frequent (W.J.D.).

Corvus corone, L.—Carrion Crow.—All but exterminated by keepers in the larger woods, nested at Forest Hill in 1906, and not uncommon near Beckenham (A.P.M.); Dartford Marshes, occasionally (W.J.D.); Bromley, scarce (B.L.); Blackheath (Fn.B.); Greenwich Park (A.D.W.); Lee, occasionally (J.F.G.), rare (B.W.A.); Sundridge Park, nest in 1899 (J.A.W.B.).

Corvus cornix, L.— Hooded Crow.—Rare, Eltham (B.W.A.); Bromley rare (B.L.); Blackheath and Eltham (Fn.B.); Greenwich Park (A.D.W.); frequently observed in winter on Blackheath, Greenwich Marshes, etc. (J.W.T.); Dartford (W.J.D.).

Corvus frugilegus, L.—Rook.—Generally distributed and common. Elm trees usually chosen, less frequently oak, ash, or beech (A.P.M.); several rookeries in and near Dartford (W.J.D.): Lee, breeds (J.F.G.); Woolwich Rectory (S.G.S.); Bromley, five or six rookeries recorded (J.A.W.B.); plenty still on Blackheath, Westcombe Park, etc. (J.W.T.); the Rookery in the Repository grounds, Woolwich, contains 30 nests this year, 1907 (W.H.P.).

ALAUDIDÆ.

Alauda arvensis, L.—Skylark.—Generally distributed and common; Greenwich Park (A.D.W.); Woolwich Rectory (S.G.S.); winter many, Bromley (J.A.W.B.); abundant just outside the actually thickly populated London area, e.g., Grove Park, Chislehurst, etc. (J.W.T.); in winter, numbers largely increased by influx of foreign larks (A.P.M.); Dartford Heath, very common (W.J.D.).; Well Hall, common (W.H.P.)

Alauda arborea, L.—Woodlark.—Bromley, rare (B.L.); Shooter's Hill and Eltham (Fn.B.); Dartford, rare (W.J.D.).

Alauda brachydactyla, Leis.—Short-toed Lark.—Orpington 1884 (B.L.); Woolwich Rectory (S.G.S.).

PICARIÆ.

CYPSELIDÆ.

Cypselus apus, L.—Swift.—Fairly common (B.W.A.); Bromley, common (B.L.); Greenwich Park (A.D.W.); Lee 1898 (J.F.G.); Woolwich Rectory (S.G.S.); Dartford (W.J.D.).

Cypselus melba, L.—Alpine Swift.—Lewisham (Fn. B.).

CAPRIMULGIDÆ.

Caprimulgus europæus, L.—Nightjar. — Bexley, fairly common (B.W.A.); Pitt Wood, St. Paul's Cray (C.R.B.); Bromley, not common, (B.L.); Shooter's Hill (Fn.B.); Greenwich Park (A.D.W.); Chislehurst, Keston and Farnborough, abundant (A.P.M.); Dartford Heath and Marshes (W.J.D.).

PICIDÆ.

Iynx torquilla, L.—Wryneck.—Local, principally in orchards in the fruit districts, and at Keston and Farnborough (A.P.M.); Dartford (W.J.D.); Bromley, rare (B.L.); Greenwich Park (Fn.B.); Greenwich Park (A.D.W.); Lee, occasionally (J.F.G.); Eltham, fairly common (B.W.A.).

Gecinus viridis, L.—Green Woodpecker.—Generally distributed, preferring woods of birch and beech trees (A.P.M.); Dartford (W.J.D.); Bromley, common (J.A.W.B.); Blackheath (Fn.B.); Greenwich Park (A.D.W.); Lee, twice (J.F.G.); Bromley, fairly common (B.W.A.).

Dendrocopus major, L.—Great-spotted Woodpecker.—Even more plentiful than the last species (A.P.M.); Dartford Marshes, nests in Joyden's Wood (W.J.D.); Keston, 1892 (B.L.); Greenwich Park (Fn.B.); Bromley, breeds (J.A.W.B.).

Dendrocopus minor, L.—Lesser-spotted Woodpecker.—Less common than the others, probably frequently overlooked, Cray and Shoreham district (A.P.M.); Dartford (W.J.D.); Greenwich Park (A.D.W.); Eltham (Fn.B.); Bostall Woods (H.); Lee, of tenseen (J.F.G.); Bromley, breeds (J.A.W.B.).

ALCEDINIDÆ.

Alcedo ispida, L.—Kingfisher.—Bromley, rare (B.L.); Greenwich Park, Ravensbourne, and Cray rivers (Fn.B.); Greenwich Park (A.W.D.); Lee, formerly breeding (S.); Lee, has nested in "Cedars" (J.F.G.); Bromley, rare (B.W.A.); a pair bred some few years back under one of the bridges over the Ravensbourne in Lewisham Recreation Ground (A.P.M.); "I saw a Kingfisher dart through the bridge over the Darenth at Darenth in 1904" (C. H. Grinling); Repository, Woolwich (C.H.G.); common on Dartford Marshes, nests in district (J.W.D.).

UPUPIDÆ.

Upupa epops, L.—Hoopoe.—Green Street Green, 1892 (B.L.); Greenwich Park, circa 1850 (Fn.B.); Cudham (J.A.W.B.).

CUCULIDÆ.

Cuculus canorus, L.—Cuckoo.—Generally distributed, abundant in the fruit area (A.P.M.); Westcombe Park and Shooter's Hill in 1903 (J.W.T.); Greenwich Park (A.D.W.); Lee, regularly (J.F.G.); Woolwich Rectory (S.G.S.); Bromley, common (J.A.W.B.); Dartford, eggs often found (W.J.D.).

STRIGES.

STRIGIDÆ.

Strix flammea, L.—Barn Owl.—Generally distributed, frequently heard at night (A.P.M.); Bromley, rare (B.L.); Eltham, common (Fn.B.); Greenwich Park (A.D.W.); Shooter's Hill (J.W.T.); Shortlands (W.G.); Lee, resident (J.F.G.); Lewisham, rare (B.W.A.).

Asio otus, L.—Long-eared Owl.—Local, confined to woods and plantations on the North Downs (A.P.M.); Dartford Heath (W.J.D.); West Wickham, 1893 (B.L.); Eltham and Deptford (Fn.B.); Sundridge Park, 1898 (J.A.W.B.).

Asio accipitrinus, Pall.—Short-eared Owl.—Irregular in occurrence (A.P.M.); Bromley, rare (B.L.); Dartford (W.J.D.).

Syrnium aluco, L.—Tawny Owl.—Bromley, rare (B.L.); Blackheath (Fn.B.); Greenwich Park (A.D.W.); breeds in Royal Naval College, Eltham (C.R.B.); Lee, occasionally (J.F.G.); Bromley, bred 1901 (J.A.W.B.); Chislehurst, the Crays, Farnborough (A.P.M.); Dartford, nests (W.J.D.).

Athene noctua, Scop.—Little Owl.—Eltham, 1857 (Fn.B.); Bromley, one shot about 4 years ago (A.P.M.); Horton Woods and Baldwyn's Park, Dartford (W.J.D.).

ACCIPITRES

FALCONIDÆ.

Circus cyaneus, L.—Hen Harrier.—Greenwich Marshes (Fn.B.).

Buteo vulgaris, Leach.—Common Buzzard.—Keston, 1892 (B.L.); Eynsford, 1903, Farningham (W.J.D.).

Accipiter nisus, L.—Sparrow Hawk.—Generally distributed, but shot and captured by keepers wherever met with (A.P.M.); Dartford (W.J.D.); Bromley, rare (B.L.); nest 1900 (J.A.W.B.); Blackheath (Fn.B.); Greenwich Park (A.D.W.); Lee, occasionally (J.F.G.); rare, Lewisham (B.W.A.); Well Hall (W.H.P.).

Falco peregrinus, Tuns.—Peregrine Falcon.—Accidental visitor, occasionally recorded (A.P.M.); Lee, 1896 (J.F.G.).

Falco subbuteo, L.—Hobby.—Has been recorded at Keston and also shot at Dartford (A.P.M.); Farningham, many years ago (W.J.D.).

Falco æsalon, Tuns.—Merlin.—Eltham (Fn.B.); Dartford (W.J.D.).

Falco tinnunculus, L.—Kestrel.—Fairly common generally (B.W.A.); Bromley, rare (B.L.); few nests every year (J.A.W.B.); Blackheath (Fn.B.); Greenwich Park (A.D.W.); Shortlands (W.G.); Lee, frequent (J.F.G.); Woolwich Rectory (S.G.S.); Dartford, common (W.J.D.).

Pandion haliaëtus, L.—Osprey.—Hayes, 1884 (B.L.); Bromley (J.A.W.B.); Belvedere (W.J.D.).

STEGANOPODES.

PELICANIDÆ.

Phalacrocorax carbo, L.—Cormorant.—Halstead, 1892 (B.L.); Lee, very occasionally (J.F.G.).

Sula bassana, L.—Gannet.—Dartford (Fn.B.).

HERODIONES.

ARDEIDÆ.

Ardea cinerea, L.—Heron.—The nearest heronries are at Cobham Park, near Rochester, Kent, and at Wanstead Park, near Stratford, Essex (A.P.M.); Dartford Marshes and Creek, Crayford (W.J.D.); Bromley, rare (B.L.); Bexley (Fn.B.); Shortlands (W.G.); Lee, occasionally (J.F.G.); Bromley, rare (B.W.A.); Woolwich Rectory (S.G.S.); seen flying over Blackheath occasionally (J.W.T.).

Botaurus stellaris, L.—Bittern.—Orpington, 1864 (B.L.); Erith (Fn.B.); Dartford Powder Mills, 1889 (W.J.D.).

IBIDIDÆ.

Plegadis falcinellus, L.—Glossy Ibis.—Bexley, 1827 (Fn.B.).

ANSERES.

ANATIDÆ.

Anser albifrons, Scop.—White-fronted Goose.—Lee, has bred here (J.F.G.).

Anser segetum, Gme.—Bean Goose.—Blackheath, seen (Fn.B.).

Bernicla brenta, Pallas.—Brent Goose.—Dartford Marshes, one shot (W.J.D.).

Cygnus musicus, Bech.—Whooper Swan.—Dartford Marshes (Fn.B.).

Cygnus olor, Gme.—Mute Swan.—A domesticated species; fairly common (B.W.A.); Blackheath (Fn.B.); Bromley (J.A.W.B.); Dartford (W.J.D.).

Tadorna cornuta, Gme.—Sheld-duck.—Dartford Marshes (Fn.B.).

Anas boscas, L.—Mallard.—Preserved on private waters, increased in number by immigrants in winter, on Thames Marshes and the Cray and Darenth (A.P.M.); Bromley, rare (B.L.); formerly not uncommon in district (Fn. B.); Greenwich Park (A.D.W.); Lee, once (J.F.G.); Bromley, rare (B.W.A.); Woolwich Rectory (S.G.S.); Sundridge Park (J.A.W.B.); nests at Dartford (W.J.D.).

Anas strepera, L.—Gadwell.—Bromley Common (Fn.B.).

Dafila acuta, L.—Pintail Duck.—Dartford Marshes (Fn.B.).

Querquedula crecca, L.—Teal.—Bromley, rare (B.L.); Blackheath (Fn.B.); Greenwich Park (A.D.W.); Dartford, not uncommon (W.J.D.).

Mareca penelope, L.—Wigeon.—Bromley, rare (B.L.); Blackheath (Fn.B.); Bexley, Danson Park (S.); Dartford, rare visitor (W.J.D.).

Fuligula ferina, L.—Pochard.—Hayes. 1888 (B.L.); Dartford, not uncommon (W.J.D.).

Fuligula cristata, Leach.—Tufted Duck.—Hayes 1872 (B.L.).

Fuligula marila, L.—Scaup Duck.—Dartford Marshes (Fn.B.).

Œdemia nigra, L.—Common Scoter.—Dartford Marshes (Fn.B. & W.J.D.).

Œdemia fusca, L.—Velvet Scoter.—Dartford Marshes (Fn.B.); a straggler (W.J.D.).

Mergus merganser, L.—Goosander.—Dartford and Erith Marshes (Fn.B.).

Mergus albellus, L.—Smew.—Dartford Marshes (Fn.B.).

COLUMBÆ.

COLUMBIDÆ.

Columba palumbus, L.—Wood Pigeon.—Generally distributed, and common; Greenwich Park (A.D.W.); Lee, resident (J.F.G.); Woolwich Rectory (S.G.S.); Chislehurst, etc. (J.W.T.); Dartford, fairly common (W.J.D.).

Columba œnas, L.—Stock Dove.—Sparingly distributed (A.P.M.); Bromley, fairly common, nests (J.A.W.B.); Blackheath (Fn.B.); Greenwich Park (A.D.W.); Danson Park, Bexley (S.); Lee, a nest regularly (J.F.G.).

Turtur communis, Selby.—Turtle Dove.—Generally distributed; Blackheath (Fn.B.); Greenwich Park (A.D.W.); Lee 1903 (J.F.G.); Bexley, Crays, and Keston woods, very plentiful (A.P.M.); Dartford, nests in woods (W.J.D.).

PTEROCLETES.

PTEROCLIDÆ.

Syrrhaptes paradoxus, Pall.—Pallas, Sand Grouse.—1888, Dartford (W.J.D.).

GALLINÆ.

PHASIANIDÆ.

Phasianus colchicus, L.—Pheasant.—Largely preserved in all the larger woods of the district (A.P.M.); Dartford, any wood, both white-ringed and typical (W.J.D.); Bromley, common (B.L.); Crown and West Woods, formerly common (Fn.B.); Lee, occasionally (J.F.G.); fairly common generally (B.W.A.).

Perdix cinerea, Lath.—Partridge.—Fairly common (B.W.A.); Dartford (W.J.D.); Bromley, common (B.L.); Blackheath, formerly (Fn.B.); Greenwich Park (A.D.W.); Lee, occasionally (J.F.G.).

Caccabis rufa, L.—Red-legged Partridge.—Not so plentiful as in Eastern Counties (A.P.M.); Dartford, not uncommon (W.J.D.); Bromley, common (B.L.); breeds (J.A.W.B.); Blackheath, occasionally (Fn.B.).

Coturnix communis, Bonn.—Quail.—Seldom seen but often heard in clover and corn fields throughout (A.P.M.); Dartford, Crayford, and Sidcup (W.J.D.); Hayes, 1892 (B.L.); Kidbrook and Greenwich Hospital (Fn.B.); Greenwich Park (A.W.D.).

FULICARIÆ.

RALLIDÆ.

Crex pratensis, Bech.— Land-rail. — Generally distributed, but nowhere plentiful (A.P.M.); Bromley, scarce (B.L.); Blackheath (Fn.B.); Greenwich Park (A.W.D.); Lee, heard but not seen (J.F.G.); Dartford (W.J.D.).

Porzana maruetta, Leach.—Spotted Crake.—Sidcup (W.J.D.).

Rallus aquaticus, L.—Water-rail.—Seldom observed owing to its skulking habits, but frequents banks of the Cray and Darenth. I heard it in pond on Chislehurst Common (A.P.M.); Dartford and Hawley Marshes (W.J.D.); Bromley, scarce (B.L.); Blackheath (Fn.B.).

Gallinula chloropus, L.—Moorhen.—Fairly common (B.W.A.); generally distributed, abundant in places (A.P.M.); bred on Blackheath, formerly (Fn.B.); Greenwich Park (A.D.W.); Lee, resident (J.F.G.); Dartford (W.J.D.).

Fulica atra, L.—Coot.—Thames Marshes, in winter (A.P.M.); Dartford, winter (W.J.D.); East Wickham (Fn.B.).

LIMICOLÆ.

ŒDICNEMIDÆ.

Œdicnemus scolopax, Gme.—Stone Curlew.—Down, 1893 (B.L.); Woolwich Rectory (S.G.S.).

CHARADRIIDÆ.

Ægialitis hiaticula, L.—Ringed Plover.—Beckenham, 1893 (B.L.); Long Reach and Creek, Dartford (W.J.D.).

Charadrius pluvialis, L.—Golden Plover.—Bromley, rare (B.L.); Dartford (Fn. B.); Greenwich Park (A.D.W.); Lee, in winter (J.F.G.); Woolwich Rectory (S.G.S.); large flocks in the Keston district in winter (A.P.M.); Eltham, rare (B.W.A.); Dartford, winter (W.J.D.).

Vanellus vulgaris, Bech.—Lapwing.—Formerly common generally, but getting rare near towns (B.W.A.); distributed over rough, poorly cultivated, or marshy land, Keston and Thames Marshes, plentiful (A.P.M.); Dartford Marshes, nests (W.J.D.); Bromley, scarce (B.L); Blackheath (Fn.B.); Greenwich Park (A.D.W.); Eltham (C.R.B.); Lee 1900, a flock of 21 (J.F.G.); Woolwich Rectory (S.G.S.).

Strepsilas interpres, Linn.—Turnstone.—Dartford Marshes, September, 1896 (W.J.D.).

Hæmatopus ostralegus, L.—Oyster-catcher—Dartford, Long Reach (W.J.D.).

SCOLOPACIDÆ.

Scolopax rusticula, L.—Woodcock.—Chiefly an autumn visitor; a large number usually obtained when the preserves are shot through; a pair nested successfully a few seasons back in the Crofton Woods (A.P.M.); Baldwyn's, Dartford Heath, nest, and Rowhill Wood (W.J.D.); Bromley, scarce (B.L.); Blackheath (Fn.B.); Greenwich Park (A.D.W.); Lee, twice (J.F.G.).

Gallinago cœlestis, Fren.—Common Snipe.—Dartford Marshes and along the Cray and Darenth in winter (A.P.M.); Bromley, scarce (B.L.); Dartford Marshes (W.J.D.); Greenwich Marshes (Fn.B.).

Gallinago gallinula, L.—Jack Snipe.—Uncertain in appearance with the last species (A.P.M.); Bromley, rare (B.L.); Greenwich Marshes (Fn.B.); Dartford Marshes, common (W.J.D.).

Tringa alpina, L.—Dunlin.—Thames banks (W.J.D.), Deptford Waterworks (Fn.B.).

Tringa minuta, Leis.—Little Stint.—Long Reach, rare (W.J.D.).

Tringa canutus, Linn.—Knot.—Near Dartford, several (W.J.D.).

Machetes pugnax, Linn.—Ruff.—Dartford, several (W.J.D.).

Tringa subarquata, Güld.—Curlew Sandpiper.—Greenwich (Fn.B.).

Totanus hypoleucus, L.—Common Sandpiper.—Keston, 1893 (B.L.); Blackheath (Fn.B.); Lee, occasionally (J.F.G.); Dartford (W.J.D.).

Totanus calidris, L.—Common Redshank.— Elmer's End, 1893 (B.L.); Thames Marshes, Dartford (A.P.M.); ditto breeds (W.J.D.).

Totanus canescens, Gmel.—Greenshank.—Long Reach, Dartford (W.J.D.).

Numenius arquata, L.—Common Curlew.—Occasionally on the Thames Marshes in winter (A.P.M.).

GAVIÆ.

LARIDÆ.

Sterna fluviatilis, Naum.—Common Tern.—On Thames (W.J.D.).

Larus ridibundus, L.—Black-headed Gull.—Comes up the River Thames in immense numbers in winter and occasionally wanders inland to feed upon ploughed fields, among rooks (A.P.M.); Elmer's End, 1893 (B.L.); commonest gull in Dartford Marshes (W.J.D.); Woolwich Rectory (S.G.S.); Greenwich, common (B.W.A.).

Larus ichthyaëtus, Pall. — Great Black-headed Gull.—Dartford Marshes (Fn.B.).

Larus canus, L.—Common Gull.—All along the riverside in winter, Shortlands, 1890 (B.L.); Thames and Blackheath (Fn.B.); Shortlands (W.G.); Lee, seen 1886 (J.F.G.); Greenwich, common (B.W.A.); Woolwich Rectory (S.G.S.); Dartford (W.J.D.).

Larus argentatus, Gmel.—Herring Gull.—Elmer's End, 1893 (B.L.); Greenwich and Bromley (B.W.A.); occasionally in twos or threes with the Blackheaded Gull in winter (A.P.M.).

Larus fuscus, L.—Black-backed Gull.—Greenwich Park (A.D.W.); Woolwich Rectory (S.G.S.); Dartford (W.J.D.).

Larus marinus, L.—Great Black-backed Gull.—Dartford Marshes (W.J.D.); Woolwich Rectory (S.G.S.).

Rissa tridactyla, L.—Kittiwake.—Hayes, 1888 (B.L.); Thames in rough weather (Fn.B. & W.J.D.).

PYGOPODES.

ALCIDÆ.

Uria troile, Linn.—Common Guillemot.—Long Reach (W.J.D.).

Mergulus alle, Linn.—Little Auk.—Darenth, Bexley, Greenhithe, specimens (W.J.D.).

Fratercula arctica, Linn.—Puffin.—Dartford, in stormy weather (W.J.D.).

COLYMBIDÆ.

Colymbus arcticus, L.—Black-throated Diver.—Purfleet saltings 1850 (Fn.B.).

Colymbus septentrionalis, Linn.—Red-throated Diver.—Dartford Marshes (W.J.D.).

PODICIPEDIDÆ.

Podicipes cristatus, L.—Great-crested Grebe.—One, Dartford (W.J.D.).

Podicipes fluviatilis, Tuns.—Little Grebe.—Local on ponds and marsh dykes near Thames (A.P.M.); Bromley, rare (B.L.); Blackheath (Fn.B.); Greenwich Park (A.D.W.); Lee, twice (J.F.G.); uncommon, Dartford (W.J.D.).

TUBINARES.

PROCELLARIIDÆ.

Procellaria pelagica, Linn.—Stormy Petrel.—Long Reach, one (W.J.D.).

PART III.

REPTILIA (Reptiles).

The only list available was that of the "Fauna of Blackheath," published in 1859; it is to be regretted that later observations are not to be obtained; possibly the knowledge of this will lead some local zoologist to pay attention to the group.

LACERTILIA.

LACERTIDÆ.

Lacerta vivipara, D. and B.—Common Lizard.—Common on furzy heaths. Blackheath formerly. (Fn.B.).

Anguis fragilis, L.—Blindworm.—Not uncommon. (Fn.B.).

OPHIDIA.

VIPERIDÆ.

Pelias berus, L.—Viper.—By no means common formerly. (Fn.B.). West Wood formerly. (Fn.B.).

Tropidonotus natrix, L.—Common snake.—Not common (Fn.B.).

PART IV.

AMPHIBIA (Amphibians).

ECAUDATA.

RANIDÆ.

Rana temporaria, L.—Common Frog.—Abundant throughout the district.

BUFONIDÆ.

Bufo vulgaris, Laur.—Toad. Common throughout district.

Bufo calamita, Laur.—Natterjack Toad.—Formerly common on Blackheath. (Fn.B.).

CAUDATA.

SALAMANDRIDÆ.

Molge vulgaris, L.—Common Newt.—Generally abundant.

Molge cristata. L.—Crested Newt.—Not uncommon generally.

PART V.

PISCES (Fishes).

The present list is a mere summary of the "Catalogue of the Fishes occurring at Blackheath and its vicinity," published by the Greenwich Nat. Hist. Club in their "Fauna," dated 1859. The need of an up-to-date list for the whole district is self-evident.

PERCIDÆ.

Perca fluviatilis, Linn.—Perch.—Common in all the streams.

Cottus gobio, Linn.—Miller's Thumb.—Common in all streams.

GASTEROSTEIDÆ.

Gasterosteus aculeatus, Linn.—Three-spined Stickleback.—Common. Ravensbourne ; also ponds and ditches.

Gasterosteus pungitus, Linn.—Ten-spined Stickleback.—Common. Ravensbourne ; also ponds and ditches.

PLEURONECTIDÆ.

Pleuronectes flesus, Linn.—Flounder.—About Deptford, formerly abundant.

MURÆNIDÆ.

Anguilla vulgaris, Turton.—Eel.—Multitudes pass up and down the river in their season migrations.

CLUPEIDÆ.

Clupea sprattus, Linn.—Sprat, Whitebait.—Formerly supposed to be particularly "the" fish of the Thames.

Clupea alosa, Linn.—Allis Shad.—Formerly taken rarely in the Thames.

Clupea finta, Cuvier.—Twaite Shad.—Formerly common in the Thames.

CYPRINIDÆ.

Cyprinus carpio, Linn.—Carp.—Common in all the streams.

Cyprinus gibelio, Nilsson.—Prussian Carp.—In a Kidbrook pond.

Cyprinus auratus, Linn.—Golden Carp.—Ornamental ponds.

Gobio fluviatilis, Rondeletius.—Gudgeon.—Thames and Ravensbourne, common.

Leuciscus rutilus, Linn.—Roach.—Thames and Ravensbourne, common.

Leuciscus dobula, Cuvier.—Dobule Roach.—Below Woolwich, 1831 (Yarrell).

Leuciscus erythrophthalmus, Linn.—Rudd.—Thames.

Leuciscus cephalus, Linn.—Chub.—Thames and Ravensbourne, not uncommon.

Leuciscus vulgaris, Fleming.—Dace.—Thames and Ravensbourne, common.

Leuciscus phoxinus, Linn.—Minnow.—Thames and Ravensbourne, common.

Tinca vulgaris, Cuvier.—Tench.—Common in all the streams.

Abramis brama, Cuvier.—Bream.—Thames and Ravensbourne.

Alburnus lucidus, Heckel and Kner.—Bleak.—Common in the Thames.

Nemachilus barbatulus, Linn.—Loach.—Common in the Ravensbourne.

SALMONIDÆ.

Salmo salar, Linn.—Salmon.—Formerly found rarely in the Thames. The last record, 1833 (Yarrell.)

Salmo fario, Linn.—Trout.—Formerly in Thames and Ravensbourne.

Osmerus eperlanus, Linn.—Smelt.—Formerly in the Thames.

ESOCIDÆ.

Esox lucius, Linn.—Pike.—Thames and Ravensbourne, common.

ACIPENSERIDÆ.

Acipenser sturio, Linn.—Sturgeon.—Formerly rarely taken.

PETROMYZIDÆ.

Petromyzon marinus, Linn.—Lamprey.—Occasionally many years ago.

Petromyzon fluviatilus, Linn.—Lampern.—Formerly abundant in the Thames.

PART VI.

ARACHNIDA (Spiders).

PSEUDOSCORPIONES (False Scorpions).

H. Wallis Kew.

These animals—Arachnids of the order Pseudoscorpiones—have not been fully studied in this country, and they are not very generally known. They are readily recognised, however, by their great chelate palps, which resemble those of a true scorpion and recall in some measure the great "claws" of a crab or lobster. About twenty species inhabit Britain; and of these, by very slightly

extending the limits of our district, we are able to record twelve. Two already published records concern us; as long ago as 1861 Lord Avebury published important observations on a false-scorpion —probably one of the species of *Chernes* here listed—found in numbers under some planks which were lying on a hot-bed in the kitchen garden at the High Elms, Down; and, in 1869, S. J. McIntire referred to a "Chelifer" found in a brewery at Deptford, but one cannot identify the creature from the particulars given. The present writer will gladly examine specimens for any Member or Associate of the Union, who may care to send them to him at 9, Queen's Road, Bromley, Kent.

CHELIFERIDÆ.

1. **Cheiridium museorum,** Leach.—Catford, in a house (B. T. Lowne, 1906); Shoreham, in a cart shed (H. W. K., 1906); West Wickham, under bark of an old elm (H. W. K., 1907).
2. **Chernes nodosus,** Schr.—South Norwood, on leg of a fly in a house (H. Hill, 1906.)
3. **Chernes cimicoides,** Fabr.—West Wickham, Hayes, and near Bromley; under bark of old trees (H. W. K., 1905–6.)
4. **Chernes panzeri,** C. L. Koch.—West Wickham, among débris at foot of an old elm (H. W. K., 1906).
5. **Chernes scorpioides,** Herm.—Beckenham (Elmer's End), plentiful in a rubbish heap (F. W. Wilson, 1902). New to Britain.
6. **Chernes dubius,** Camb.—Cudham Valley, under firmly embedded stones on a wooded hill-side (H. W. K., 1905).
7. **Chernes wideri,** C. L. Koch.—West Wickham, under bark of an old oak (H. W. K., 1905).

OBISIIDÆ.

8. **Roncus lubricus,** L. Koch.—Keston, under a stone (H. W. K., 1901). Greenwich, under bricks in an old garden (F. W. Wilson, 1903). New Chelmsfield, in cavity of a potato just removed from the earth (H. D. Hewitt, 1903).
9. **Obisium muscorum,** Leach.—Keston, West Wickham, Down, etc.; under stones and among dead leaves.

CHTHONIIDÆ.

10. **Chthonius tetrachelatus,** Preys.—Greenwich, Catford, Bromley, Eynsford, etc.; under stones and rubbish, often in old gardens.
11. **Chthonius tenuis,** L. Koch.—Cudham, under a flint in a wood (H. W. K., 1905).
12. **Chthonius rayi,** L Koch.—Common; under stones, etc.

PART VII.

INSECTA (Insects).

A. HEMIPTERA (Bugs).

It is most fortunate that we have among our local entomologists so excellent a worker as W. West, of Greenwich. To him we are entirely indebted for the list of these two interesting groups of the Hemiptera, and his initials, W. W., will show by their frequency what excellent work he has done here. It is hoped that this list may be a basis for future work, for there can be no doubt, that, there are yet many species in this group to be recorded within the limits chosen for our faunal survey.

(1)—HEMIPTERA-HETEROPTERA.

SCUTELLERIDÆ.

Eurygaster maura, Linn.—Brockley, on Brighton Railway bank, one specimen 1894. (W.W.)

Podops inuncta, Fab.—Not common. Kidbrook, under vegetable matter, 1897 (W.W.); Orpington (Billups).

CYDNIDÆ.

Sehirus bicolor, Linn.—Lee, sweeping nettles (W.W.).

Gnathoconus albomarginatus, Fab.—Common. Lee, at roots, 1900 (W.W.).

Gnathoconus picipes, Fall.—Bromley (Saunders).

PENTATOMIDÆ.

Neottiglossa inflexa, Wolf.—Bromley (Saunders).

Pentatoma prasina, Linn.—Blackheath, beating ivy, 1901 (W W.) Orpington (Billups).

Strachia festiva, Linn.—Lee, a single specimen (Douglas and Scott).

Piezodorus lituratus, Fab.—Blackheath, beating furze 1903 (W.W.).

Tropicoris rufipes, Linn.—Shooter's Hill, beating oak, 1904 (W.W.).

ASOPIDÆ.

Picromerus bidens, Linn.—Not common. Plumstead Marsh, on ragwort, 1897 (W.W.).

Podisus luridus, Fab.—Abbey Wood, 1900 (W.W.); Bromley (E. Saunders).

ACANTHOSOMIDÆ.

Acanthosoma hæmorrhoidale, Linn.—Abbey Wood, on birch, 1898 (W.W.).

Acanthosoma dentatum, De G.—Abbey Wood, on oak, 1898 (W.W.).

Acanthosoma interstinctum, Linn.—Shooter's Hill, Lee, Kidbrook, on birch, 1897 (W.W.).

COREIDÆ.

Coreus denticulatus, Scop.—Burnt Ash Lane, Lee, sweeping meadows, 1900 (W.W.); Plumstead (Champion).

STENOCEPHALIDÆ.

Stenocephalus agilis, Scop.—Erith, one specimen, 1905 (W.W.).

CORIZIDÆ.

Corizus capitatus, Fab.—Brockley, on *Hypericum*, 1905 (W.W.).

Corizus parumpunctatus, Schill.—Shooter's Hill, one on ragwort, 1898 (W.W.).

Myrmus miriformis, Fall. — Common. Brockley, Lewisham, Kidbrook, Plumstead (W.W.).

BERYTIDÆ.

Berytus minor, H.-Sch. — Lee, sweeping in meadow, 1900; Shooter's Hill, Kidbrook, 1901 (W. W.); Charlton (Stainton).

Berytus montivagus, Fieb.—Charlton, under broom bushes (D. and S.).

LYGÆIDÆ.

Nysius lineatus, Cost.—Common. Plumstead, on heath, 1893 (W.W.).

CYMIDÆ.

Cymus glandicolor, Hahn.—Lee, on water-plants, 1898 (W.W.).

Cymus claviculus, Fall.—Common. Lee pit, 1893; Shooter's Hill, 1900; Plumstead Marshes, 1901 (W.W.).

Ischnorhynchus resedæ, Panz.—Kidbrook, one, by beating, 1900 (W.W.).

Ischnorhynchus geminatus, Fieb.—Plumstead Common, on heath, 1890 (W.W.).

HETEROGASTRIDÆ.

Heterogaster urticæ, Fab.—Common. Abbey Wood, Kidbrook, Lee, on nettles, 1898 (W.W.); Charlton (D. and S.).

PACHYMERIDÆ.

Rhyparochromus dilatatus, H.-Sch.—Not uncommon. Shooter's Hill, at roots of grass, 1900; Blackheath, 1901 (W.W.).

Macrodema micropterum, Curt.—Plumstead, 1894 (W.W.).

Plinthisus brevipennis, Latr.—Chislehurst, 1903 (W.W.).

Stygnus rusticus, Fall.—Hither Green Lane; Lee, 1897 (W.W.).

Stygnus pedestris, Fall.—Common. Lee, 1900 (W.W.).

Stygnus arenarius, Hahn.—Plumstead, Lee, 1898 (W.W.).

Peritrechus luniger, Schill.—Kidbrook, under vegetable refuse, 1900 (W.W.); Bexley (D. and S.).

Peritrechus geniculatus, Hahn.—Lee, 1900; Kidbrook, in rubbish, 1902 (W.W.).

Aphanus rolandri, Linn.—Plumstead (Champion).

Aphanus pedestris, Panz.—Erith, sweeping river bank (W.W.); Lee (Champion).

Scolopostethus affinis, Schill.—Common. Lee, Abbey Wood, Kidbrook, amongst nettles (W.W.).

Scolopostethus neglectus, Edw.—Lee, sweeping nettles (W.W.)

Scolopostethus decoratus, Hahn.—Common. Plumstead, on heath, 1892 (W.W.).

Notochilus contractus, H.S.—Common, Kidbrook, Lee, Lewisham, in rubbish (W.W.).

Drymus sylvaticus, Fab.—Common, Plumstead, Lee, Kidbrook, in rubbish (W.W.). Var. **ryei,** D. and S.—Lee, 1902 (W.W.).

Gastrodes ferrugineus, Linn.—Bostall Wood, on Scotch firs (W.W.).

PIESMIDÆ.

Piesma quadrata, Fieb.—Plumstead Marsh, on *Chenopodium,* 1900 (W.W.).

Piesma capitata, Wolff.—Common, Lee, Kidbrook, Shooter's Hill sweeping, 1902 (W.W.). Bickley, Foot's Cray (D. & S.).

TINGIDIDÆ.

Orthostira parvula, Fall.—Plumstead, macropterous and brachypterous forms, 1898 (W.W.).

Dictyonota crassicornis, Fall.—Eltham, Plumstead (D. & S.).

Dictyonota strichnocera, Fieb.—Blackheath, on furze bushes, 1900 (W.W.).

Dictyonota fuliginosa, Fieberi. — Wickham Lane, Plumstead, two specimens on broom, 1894 (W.W.).

Derephysia foliacea, Fall.—Common, Blackheath, beating ivy, 1900 (W.W.).

Monanthia ampliata, Fieb.—Lee, on thistles (W.W.). Chislehurst (D. and S.).

Monanthia cardui, Linn.—Common, Lee, Kidbrook, Catford, Plumstead, on thistles (W.W.).

Monanthia dumetorum, H.-Sch.—Lee (J.W.D.).

Monanthia simplex, H.-Sch.—Bexley (J.S.).

Monanthia humuli, Fab.—Catford, in ditches on *Myosotis,* 1894 (W.W.); Lee (D. and S.).

ARADIDÆ.

Aradus depressus, Fab.—Bromley, 1897 (W.W.).

Aneurus lævis, Fab.—Abbey Wood, under bark (W.W.); Bromley (Saunders).

HEBRIDÆ.

Hebrus pusillus, Fall.—Plumstead Marshes (D. and S.).

HYDROMETRIDÆ.

Hydrometra stagnorum, Linn.—Catford, in the Ravensbourne, 1901 (W.W.).

VELIIDÆ.

Velia currens, Fab.—Common, Lee, Kidbrook, Lewisham, Plumstead (W.W.).

Microvelia pygmæa, Duf.—Common, Catford, Lee, Plumstead (W.W.). Macropterous form very rare, I have taken one only in the Ravensbourne, Ladywell (W.W.).

GERRIDÆ.

Gerris paludum, Fab.—Eltham (Saunders).

Gerris najas, De G —Common, Catford, in the Ravensbourne, 1901 (W.W.).

Gerris thoracica, Schum.—Plumstead Marshes, Lee, Catford (W.W.).

Gerris gibbifera, Schum.—Lee, Kidbrook, Brockley (W.W.).

Gerris lacustris, Linn.—Blackheath, Lee, Kidbrook (W.W.).

Gerris odontogaster, Zett.—Lee, 1897 (W.W.).

Gerris argentata, Schum.—Catford, one only, 1901 (W.W.).

REDUVIIDÆ.

Ploiaria vagabunda, Linn.—Lee, Blackheath, beating ivy (W.W.); Lee (D. and S.).

Coranus sub-apterus, De. G.—Plumstead, under stones (W.W.).

Prostemma guttula, Fab.—One specimen taken at Charlton, by Mr. E. W. Janson (E. Saunders).

Nabis brevipennis, Hahn.—Bromley, on *Corylus* (E. Saunders).

Nabis lativentris, Boh.—Common, Shooter's Hill, Lee, Kidbrook, Plumstead (W.W.).

Nabis major, Cost.—Common, Lee, Lewisham, Kidbrook, in rubbish 1901 (W.W.).

Nabis flavomarginatus, Scholtz.—Kidbrook, 1896 (W.W.).

Nabis limbatus, Dahlb.—Common, Kidbrook, in rubbish, 1903 (W.W.).

Nabis ferus, Linn.—Common, Lee, Kidbrook, Plumstead, sweeping (W.W.).

Nabis rugosus, Linn.—Common, Lee, Lewisham, Plumstead (W.W.).

SALDIDÆ.

Salda saltatoria, Linn.—Lee, at the banks of ponds, 1900 (W.W.).

Salda pilosella, Thom.—Common, Erith (W.W.).

Salda cincta, H.-Sch.—Hither Green Lane, at pond, 1900 (W.W.).

CIMICIDÆ.

Cimex lectularius, Linn.—Too well known in some parts of the district.

Ceratocombus coleoptratus, Zett.—Bexley (Champion).

Lyctocoris campestris, Fab.—Common, Lewisham, Lee, Kidbrook, in stack refuse, 1896 (W.W.).

Piezostethus galactinus, Fieb.—Not common, Lewisham, in hot-beds, 1895 (W.W.).

Anthocoris confusus, Reut.—Common, Lee, Kidbrook, Plumstead, beating various trees, 1895 (W.W.).

Anthocoris nemoralis, Fabr.—Common throughout district (W.W.).

Anthocoris gallarum-ulmi, De Geer.—Plumstead, Lee, Kidbrook, Abbey Wood, on elm, 1896 (W.W.).

Anthocoris sorothamni, D. and S. — Plumstead, on broom, 1898 (W.W.); Lee (Billups).

Anthocoris sylvestris, Linn.—Common, Brockley, Lee, Kidbrook, Plumstead (W.W.).

Tetraphleps vittata, Fieb.—Not uncommon, Abbey Wood, on fir-trees, 1899 (W.W.); Bromley (Saunders).

Acompocoris pygmæus, Fall.—Bostall Wood, on fir trees (W.W.).

Triphleps niger, Wolff.—Common, Plumstead Common (W.W.).

Triphleps majusculus, Reut.—Not uncommon, Lewisham, Kidbrook, sweeping, 1901 (W.W.).

Xylocoris ater, Duf.—Brockley, one specimen under bark, 1902 (W.W.).

Microphysa pselaphiformis, Curt.—Bromley (Saunders).

Microphysa elegantula, Baer.—Grove Park, Lee (W. W.).

CAPSIDÆ.

Pithanus mærkeli, H.-Sch.—Common, Lewisham, Lee, Kidbrook Plumstead Marsh, sweeping (W.W.); Eltham (D. and S.).

Acetropis gimmerthalii, Flor.—Kidbrook, Plumstead, by sweeping, 1898 (W.W.).

Miris lævigatus, Linn.—Common, Abbey Wood, Lee, Brockley, by sweeping grasses (W.W.); Bexley (D. and S.); Bromley (Sauzé).

Miris calcaratus, Fall.—Common, Plumstead, Lee, Lewisham, by sweeping grasses (W.W.).

Megaloceræa erratica, Linn.—Common throughout district (W.W.).

Megaloceræa longicornis, Fall.—Lee, Bexley (D. and S.).

Megaloceræa ruficornis, Fall.—Common throughout district (W.W.); Charlton (D. and S.).

Leptopterna ferrugata, Fall.—Common, Kidbrook, 1901 (W.W.).

Leptopterna dolobrata, Linn.—Common, Kidbrook, Abbey Wood, Lee, Shooter's Hill, by sweeping (W.W.); Eltham (D. and S.).

Monalocoris filicis, Linn.—Common, Plumstead, Abbey Wood, on ferns (W.W.).

Pantilius tunicatus, Fab.—Shooter's Hill, on hazel, 1898 (W.W.); Bromley (Saunders).

Lopus flavomarginatus, Don.—Abbey Wood, on bramble bloom, very common, 1898 (W.W.).

Phytocoris populi, Linn.—Blackheath, the type on Lombardy poplars, 1900. On the white poplar (var. **distinctus**) (W.W.).

Phytocoris tiliæ, Fab.—Common throughout district, on limes and other trees (W.W.).

Phytocoris longipennis, Flor.—Not common, Shooter's Hill, Abbey Wood, 1901 (W.W.); Blackheath (D. and S.).

Phytocoris reuteri, Saund.—Common, Blackheath, Lewisham (W.W.)

Phytocoris dimidiatus, Kbm.—Lee, on oaks, 1899 (W.W.); Bromley (Saunders).

Phytocoris ulmi, Linn.—Common, Abbey Wood, Lee, Kidbrook, Lewisham, on elms (W.W.).

Calocoris striatellus, Fab.—Shooter's Hill, on oaks, 1905 (W.W.); Bexley (D. and S.).

Calocoris fulvomaculatus, De G.—Abbey Wood (W.W.).

Calocoris roseomaculatus, De G.—Erith, Lewisham, Brockley (W.W.).

Calocoris chenopodii, Fall.—Lee, on *Chenopodium* (W.W.).

Calocoris bipunctatus, Fab.—Common, Lee, Lewisham, Kidbrook, sweeping (W.W.).

Calocoris infusus, H.-Sch.—Lee, Blackheath, on oak (W.W.); Lewisham (D. and S.).

Oncognathus binotatus, Fab.—Common, Lewisham, Kidbrook, Plumstead, Erith (W.W.).

Dichrooscytus rufipennis, Fall.—Bromley (Saunders).

Plesiocoris rugicollis, Fall.—Plumstead, Lewisham (W.W.).

Lygus pabulinus, Linn.—Common throughout district on nettles (W.W.).

Lygus contaminatus, Fall.—Plumstead, Lewisham, Brockley, on birch-trees (W.W.).

Lygus viridis, Fall.—Common, Lewisham on limes, 1898 (W.W.).

Lygus spinolæ, Mey.—Bromley (Saunders); Eltham, on brambles (D. and S.).

Lygus pratensis, Fab.—Common, Kidbrook, Lee, Plumstead (W.W.).

Lygus pastinacæ, Fall.—Abbey Wood, Lee (W.W.).

Lygus cervinus, H.-Sch.—Common, Lewisham, on limes and poplars, 1900 (W.W.).

Lygus rubricatus, Fall.—Bostall Wood, on firs, 1895 (W.W.).; Bromley (Saunders).

Zygimus pinastri, Fall.—Bromley (Saunders).

Pœciloscytus gyllenhalii, Fall.—Erith, on *Galium*, 1896 (W.W.).

Pœciloscytus unifasciatus, Fab.—Chislehurst, 1900 (W.W.); Lee (D. and S.).

Camptobrochis lutescens, Schill.—Lee, Plumstead, Abbey Wood (W.W.).

Liocoris tripustulatus, Fab.—Common throughout district on nettles (W.W.).

Capsus laniarius, Linn.—Common, Lewisham (W.W.).

Rhopalotomus ater, Linn.—Common, Lewisham, Kidbrook, Plumstead, by sweeping (W.W.).

Pilophorus cinnamopterus, Kbm.—Rare, Plumstead (D. and S.).

Pilophorus clavatus, Linn.—Blackheath, Lee, on poplars, 1900 (W.W.).

Pilophorus perplexus, D. and S.—Blackheath, Lewisham, Lee, 1902 (W.W.); Bromley (Saunders).

Halticus luteicollis, Panz.—Bromley (Saunders).

Orthocephalus saltator, Hahn.—Brockley, on *Trifolium*, 1902 (W.W.); Eltham (D. and S.).

Macrolophus nubilus, H.-Sch.—Lewisham, June, on *Stachys sylvaticus* (D. and S.).

Dicyphus epilobii, Reut.—Common, Kidbrook, on *Epilobium*, 1899 (W.W.)

Dicyphus errans, Wolff.—Abbey Wood, on *Stachys*, 1894 (W.W.); Eltham, Lewisham (D. and S.).

Dicyphus pallidicornis, Fieb.—Common, Abbey Wood, on foxgloves, 1894 (W.W.); Plumstead (D. and S.).

Dicyphus globulifer, Fall.—Abbey Wood, on *Silene*, 1900 (W.W.); Eltham, Bexley, Lewisham (D. and S.).

Campyloneura virgula, H.-Sch.—Common, Lee, Blackheath, Kidbrook, Plumstead, on oak (W.W.); Bromley, Bexley (D. and S.).

Cyllocoris histrionicus, Linn.—Common, Shooter's Hill, on oak (W.W.).

Cyllocoris flavonotatus, Boh.—Common, Shooter's Hill, Lewisham, on oaks (W.W.).

Ætorhinus angulatus, Fall.—Common throughout district on willows and alder (W.W.).

Globiceps flavomaculatus, Fab.—Eltham, on *Umbelliferæ* (D. and S).

Mecomma ambulans, Fall.—Abbey Wood, Grove Park, Lee, sweeping amongst rushes (W.W.).

Orthotylus bilineatus, Fall.—Plumstead, Shooter's Hill, on aspens, 1900 (W.W.).

Orthotylus nassatus, Fab.—Blackheath, on limes, 1893 (W.W.); Bromley, Eltham (D. and S.).

Orthotylus diaphanus, Kb.—Lee, Lewisham, on willows, 1900 (W.W.); Bromley (Saunders); Eltham (D. and S.).

Orthotylus viridinervis, Kb.—Kidbrook, on elms, 1896 (W.W.).

Orthotylus prasinus, Fall.—Kidbrook, Abbey Wood, in elm hedges, 1895 (W.W.).

Orthotylus flavinervis, Kbm.—Catford, on alders, 1897 (W.W.); Bromley (Saunders).

Orthotylus marginalis, Reut.—Lee, Lewisham, on willows (W.W.).

Orthotylus adenocarpi, Perr.—Plumstead, on broom, 1895 (W.W.).

Orthotylus chloropterus, Kbm.—Plumstead, 1894. Shooter's Hill, on broom, 1900 (W.W.); Blackheath, Charlton (D. and S.).

Orthotylus flavosparsus, Sahlb.—Common, Lee, Lewisham, Kidbrook, Plumstead Marshes, on *Chenopodium* (W.W.).

Orthotylus ericetorum, Fall.—Plumstead, on heath, 1894 (W.W.).

Hypsitylus bicolor, D. and S.—Blackheath, on furze, 1900 (W.W.).

Malacocoris chlorizans, Fall.—Lee, Lewisham, beating hazel in hedges (W.W.); Bexley (D. and S.).

Loxops coccineus, Mey.—Lewisham, on ash trees, 1893 (W.W.).

Heterotoma merioptera, Scop.—Common throughout district on nettles (W.W.).

Heterocordylus tibialis, Hahn.—Plumstead, on broom, 1893 (W.W.).

Onychumenus decolor, Fall.—Eltham (D. and S.).

Macrotylus paykullii, Fall.—Lewisham, on *Ononis*, 1896 (W.W.).

Conostethus roseus, Fall.—Eltham (D. & S.).

Macrocoleus molliculus, Fall.—Lee, on yarrow, 1900 (W.W.).

Amblytylus brevicollis, Fieb.— Shooter's Hill, sweeping, 1900 (W.W.).

Amblytylus affinis, Fieb.—Lee (Billups) ; Eltham (D. & S.).

Harpocera thoracica, Fall.—Grove Park, Lee, Abbey Wood, on oaks (W.W.). Eltham, Bexley (D. & S.).

Byrsoptera rufifrons, Fall.—Abbey Wood, sweeping, 1892 (W.W.).

Phylus palliceps, Fieb.—Shooter's Hill, on oaks, 1901 (W.W.).

Phylus melanocephalus, Linn.—Shooter's Hill, on oaks, 1901 (W.W.).

Phylus coryli, Linn.—Abbey Wood, on hazel, 1899 (W.W.).

Atractotomus mali, Mey.—Lewisham, on whitethorn (W.W.).

Atractotomus magnicornis, Fall.—Bromley (Saunders).

Psallus betuleti, Fall. — Lewisham, Shooter's Hill, on birch (W.W.).

Psallus ambiguus, Fall.—Kidbrook, in hedges on whitethorn, 1900 (W.W.).

Psallus obscurellus, Fall.—Bostall Wood, on firs. (W.W.) ; Eltham, on apple trees (D. & S.).

Psallus variabilis, Fall.—Grove Park, Lee, on oak, 1899 (W.W.).

Psallus quercûs, Kbm.—Bromley (Saunders).

Psallus rotermundi, Scholtz.—Blackheath, on fences under *Populus alba,* 1900 (W.W.).

Psallus fallenii, Reut.—Lewisham, Plumstead, on sallows (W.W.).

Psallus alnicola, D. and S.—Catford, on alders, 1903 (W.W.).

Psallus lepidus, Fieb.—Abbey Wood, on ash, 1896 (W.W.).

Psallus varians, H.-Sch.—Common, Shooter's Hill, Abbey Wood, on oaks (W.W.).

Psallus sanguineus, Fab.—Lee, Lewisham, on sallows (W.W.).

Psallus salicellus, Meyer.—Lee, Lewisham, on hazel (W.W.).

Plagiognathus roseri, H.-Schf.—Lee, Lewisham, on sallows, 1902 (W.W.) ; Bromley (Saunders).

Plagiognathus albipennis, Fall.—Eltham, Lee (Bignell).

Plagiognathus arbustorum, Fab.—Common throughout district on nettles (W.W.) ; Bexley (D. and S.)

Plagiognathus viridulus, Fall.—Common throughout district with the preceding (W.W.).

Plagiognathus pulicarius, Fall.—Brockley, sweeping 1901 (W.W.).

Asciodema obsoletum, D. and S.—Blackheath (W.W.)

NEUCORIDÆ.

Neucoris cimicoides, Linn.—Common, Lee, Plumstead Marshes, in ditches (W.W.).

NEPIDÆ.

Nepa cinerea, Linn.—Common, Lee, Lewisham, Brockley (W.W.).

Ranatra linearis, Linn.—Lee (Saunders).

Notonecta glauca, Linn.—Common, Lewisham, Lee, Catford, Plumstead Marshes (W.W.).

Plea minutissima, Fab.—Lee, Catford (W.W.).

CORIXIDÆ.

Corixa geoffroyi, Leach.—Common, Lee (W.W.).

Corixa atomaria, Illig. — Ravensbourne River, Catford, 1901 (W.W.).

Corixa lugubris, Fieb.—Plumstead Marshes, 1902 (W.W.).

Corixa hieroglyphica, Duf.—Lee, Ravensbourne River, Catford, 1901 (W.W.).

Corixa linnæi, Fieb.—Common, Lee, Plumstead Marshes, Ravensbourne River, Catford (W.W.).

Corixa sahlbergi, Fieb.—Lee (W.W.).

Corixa striata, Fieb.—Lee, Ravensbourne River, Catford (W.W.).

Corixa distincta, Fieb.—Rare, Lee (W.W.).

Corixa fallenii, Fieb.—Hither Green Lane, Lee, 1898 (W.W.).

Corixa mœsta, Fieb.—Lee, 1898 (W.W.).

Corixa limitata, Fieb.—Hither Green Lane, Lee, Grove Park, Lee 1898 (W.W.).

Corixa semistriata, Fieb.—Lee (D. and S.).

Corixa fabricii, Fieb.—Kidbrook, Lee, Greenwich, in a water-tank (W.W.)

Corixa præusta, Fieb.—Hither Green Lane, Lee, Brockley (W.W.)

Corixa concinna, D. and S.—Lee (Douglas).

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(2)—HEMIPTERA—HOMOPTERA.

MEMBRACIDÆ.

Centrotus cornutus, Linn.—Kidbrook, beating hedges (W.W.)

ISSIDÆ.

Issus coleoptratus, Geoff.—Blackheath, in ivy, Plumstead, beating hedges (W.W.).

CIXIIDÆ.

Oliarus panzeri, Löw.—Kidbrook, on elm. Blackheath, Lee, on sallows, 1900 (W.W.); Bromley, by beating willows (Saunders).

Cixius pilosus, Ol.—Burnt Ash Lane, Lee, beating whitethorn, 1900 (W.W.).

Cixius cunicularius, Linn.—Lewisham, Kidbrook Lane (W.W.).

Cixius nervosus, Linn.—Lee, Kidbrook Lane, Abbey Wood, 1899 (W.W.).

Cixius brachycranus, Fieb. — Catford, on *Populus alba,* 1900 (W.W.).

DELPHACIDÆ.

Delphax pulchella, Curt.—Lee (J. S.).

Liburnia vittipennis, J. Sahl.—Lewisham, Lee, sweeping long grass, 1906 (W.W.).

Liburnia scotti, Fieb.—Lee pit, Abbey Wood Marshes (J. G.).

Liburnia unicolor, H.-Sch. — Plumstead Marshes, on reeds, 1902 (W.W.).

Liburnia signoreti, Scott.—Abbey Wood (J.S.).

Liburnia capnodes, Scott.—This species was described by Scott in 1870 from a single female, taken in Lee, 1863 (J. Edwards).

Liburnia pellucida, Fab.—Common, Lee, Catford, Shooter's Hill, Plumstead, amongst grasses (W.W.).

Liburnia difficilis, Edw.—Common, Lee, Kidbrook, Plumstead, amongst grasses (W.W.).

Liburnia discolor, Boh.—Lee, Abbey Wood (W.W.).

Liburnia forcipata, Boh.—Grove Park, Lee (W.W.).

Liburnia striatella, Fall.—Kidbrook, 1902 (W.W.).

Liburnia fairmairei, Perris. — Lee, Plumstead, sweeping, 1901 (W.W.).

Liburnia limbata, Fab.—Common, Kidbrook, Lee, Shooter's Hill, amongst rushes (W.W.).

Liburnia lineata, Perris.—Lee, Kidbrook, on grasses, 1900 (W.W.).

Dicranotropis hamata, Boh.—Plumstead Marshes, Lee, Kidbrook, Brockley, 1901 (W.W.),

Stiroma pteridis, Boh.—Common, Plumstead, Lee, on *Pteris*, 1902 (W.W.).

Stiroma affinis, Fieb.—Abbey Wood, 1898 (W.W.).

CERCOPIDÆ.

Triecphora vulnerata, Illig.—Lee, on sallows (W.W.).

Aphrophora alni, Fall.—Lee, on poplars, Catford, on alders, 1903 (W.W.).

Aphrophora salicis, De G.—Lee, on willows, 1902 (W.W.).

Philænus spumarius, Linn.—This abundant and variable species is common throughout the district (W.W.).

Philænus campestris, Fall.—Common, Kidbrook, Lee, Plumstead, on low plants (W.W.).

Philænus lineatus, Linn.—Kidbrook, Plumstead, Blackheath, Brockley (W.W.).

LEDRIDÆ.

Ledra aurita, Linn.—Abbey Wood, 1899 (W.W.).

ULOPIDÆ.

Ulopa reticulata, Fab.—Plumstead, on heath (W.W.).

PAROPIIDÆ.

Megophthalmus scanicus, Fall.—Abbey Wood (W.W.).

BYTHOSCOPIDÆ.

Macropsis lanio, Linn.—Lee, Shooter's Hill, on oaks (W.W.).

Bythoscopus alni, Schr.—Catford, on alders; Lee, on hazel (W.W.).

Bythoscopus rufusculus, Fieb. — Lewisham, on willows, 1896 (W.W.).

Bythoscopus flavicollis, Linn.—Lee, Shooter's Hill, on birch (W.W.).

Pediopsis scutellatus, Boh.—Lee, Kidbrook, Abbey Wood, on sallows (W.W.).

Pediopsis tibialis, Scott.—Kidbrook, Lee, on brambles (W.W.); Bexley Road (J.S.).

Pediopsis fuscinervis, Boh.—Shooter's Hill, on alders (W.W.).

Pediopsis ulmi, Scott.—Kidbrook, Blackheath, on elm (W.W.); Lee (D. and S.).

Pediopsis cereus, Germ.—Grove Park, Lee, on sallows (W.W.).

Pediopsis virescens, Fab.—Lee, Lewisham, Blackheath, on willows (W.W.).

Idiocerus adustus, H.-Sch.—Plumstead, Abbey Wood, Blackheath, Catford, on willows (W.W.).

Idiocerus distinguendus, Kbm.—Lee, Blackheath, Brockley, Catford on *Populus alba* (W.W.).

Idiocerus tremulæ, Estl.—Plumstead, Shooter's Hill, on aspens, 1900 (W.W.).

Idiocerus laminatus, Flor.—Plumstead, on poplars; Shooter's Hill, on aspens, 1901 (W.W.).

Idiocerus lituratus, Fall.—Hither Green Lane, Lee, on sallows, 1902 (W.W.).

Idiocerus vitreus, Fab.—Blackheath Park, on Lombardy poplars, 1902 (W.W.).

Idiocerus fulgidus, Fab.—Blackheath Park, on Lombardy poplars; Lewisham, amongst sycamores, 1900 (W.W.).

Idiocerus populi, Linn.—Lewisham, Shooter's Hill, on aspens, 1902 (W.W.).

Idiocerus confusus, Flor. — Lewisham, Lee, on sallows, 1900 (W.W.).

Idiocerus albicans, Kbm.—Lee, Blackheath, Brockley, on *Populus alba,* 1900 (W.W.).

Agallia puncticeps, Germ.—Plumstead (Beaumont).

Agallia venosa, Fall.—Shooter's Hill, at roots of grass (W.W.).

Evacanthus interruptus, Linn.—Catford, on nettles (W.W.).

Evacanthus acuminatus, Fab.—Abbey Wood, sweeping (W.W.).

ACOCEPHALIDÆ.

Acocephalus nervosus, Schr.—Common, Kidbrook, Lee, Abbey Wood, Blackheath, Plumstead, on nettles (W.W.).

Acocephalus albifrons, Linn.—Lee, Blackheath, under furze-bushes (W.W.).

Acocephalus brunneo-bifasciatus, Geoff.—Kidbrook, Lee, Catford, Blackheath, at roots of grass (W.W.).

Acocephalus flavostriatus, Don.—Catford, 1903 (W.W.).

Eupelix cuspidata, Fab.—Greenwich, Shooter's Hill, at roots of grass (W.W.).

Graphocræus ventralis, Fall. — Lee, Kidbrook, sweeping in meadows, 1900 (W.W.).

Doratura stylata, Boh.—Greenwich, Kidbrook, Shooter's Hill, at roots of grass (W.W.).

JASSIDÆ.

Stictocoris flaveola, Bohm.—This addition to the British Fauna was captured in abundance on damp ground in Kidbrook Lane, September, 1900, determined by J. Edwards, and confirmed by Dr. J. Sahlberg. I have also taken it in similar situations at Lee, Shooter's Hill (W.W.).

Athysanus sordidus, Zett.—Common, Shooter's Hill, Lee, Catford, Blackheath, at roots (W.W.).

Athysanus grisescens, Zett.—Common, Shooter's Hill, Kidbrook, at roots of grasses (W.W.).

Athysanus communis, J. Sahl.—Common, Lee, Lewisham, Shooter's Hill, at roots of grasses (W.W.).

Athysanus obscurellus, Kbm.—Common, Kidbrook, Plumstead, Eltham, at roots of grass (W.W.).

Athysanus obsoletus, Kbm.—Common, Shooter's Hill, Lee, at roots of grass (W.W.).

Deltocephalus abdominalis, Fab.—Catford, 1900 (W.W.).

Deltocephalus pascuellus, Fall.—Common, Catford, Greenwich, Blackheath (W.W.).

Deltocephalus ocellaris, Fall.—Common, Lee, Plumstead, Abbey Wood, sweeping (W.W.).

Deltocephalus coronifer, Marsh.—Not common, Blackheath, under furze bushes (W.W.).

Deltocephalus repletus, Fieb.—Shooter's Hill, under broom (W.W.).

Deltocephalus flori, Fieb.—Not common, Shooter's Hill, sweeping (W.W.).

Deltocephalus distinguendus, Flor. — Common, Plumstead, Lee, Blackheath (W.W.).

Deltocephalus socialis, Flor.—Brockley (W.W.).

Deltocephalus striatus, L.—Common, Blackheath, Plumstead, Lewisham (W.W.).

Deltocephalus punctum, Flor.—Not common, Brockley (W.W.).

Deltocephalus argus, Marsh.—Shooter's Hill, Plumstead (W.W.).

Deltocephalus pulicaris, Fall. — Common, Kidbrook, Catford, Shooter's Hill, sweeping grasses (W.W.).

Allygus commutatus, Fieb.—Abbey Wood, on wych elm (W.W.).

Allygus modestus, Fieb.—Grove Park, sweeping (W.W.), Blackheath (Beaumont).

Thamnotettix prasina, Fall.—Abbey Wood, beating oak, 1901 (W.W.).

Thamnotettix dilutior, Kbm.—Greenwich Park, on oak, 1903 (W.W.).

Thamnotettix subfuscula, Fall.—Shooter's Hill, on oak, Grove Park, on hazel (W.W.).

Thamnotettix variegata, Kbm.—Blackheath, Plumstead Marsh, sweeping, 1900 (W.W.).

Thamnotettix splendidula, Fab.—Blackheath, beating ivy, 1900 (W.W.).

Thamnotettix crocea, H.-Sch.—Common, Plumstead, Lee, Blackheath, under furze (W.W.).

Limotettix 4 notata, Fab.—Shooter's Hill, Lee, Kidbrook, amongst grasses (W.W.).

Limotettix sulphurella, Zett.—Brockley, Lee, Kidbrook, Plumstead, on grasses (W.W.).

Cicadula variata, Fall.—Brockley, sweeping (W.W.).

Cicadula fasciifrons, Stal.—Lee, Lewisham, sweeping (W.W.).

Cicadula sexnotata, Fall.—Common, Lee, Kidbrook, Brockley, Plumstead (W.W.).

TYPHLOCYBIDÆ.

Alebra albostriella, Fall.—Common, Lee, Lewisham, Brockley, Plumstead, on various trees, var. **fulveola,** H.-S., Blackheath, on fences; var. **wahlbergi,** Boh., Blackheath, on elm (W.W.).

Dicraneura citrinella, Zett.—Shooter's Hill (W.W.).

Dicraneura variata, Hardy.—Plumstead, sweeping round furze and broom bushes (W.W.).

Kybos smaragdula, Fall.—Common, Kidbrook, Plumstead, Lewisham, Blackheath, on poplars and sallows (W.W.).

Chlorita viridula, Fall.—Kidbrook, beating hedges (W.W.).

Eupteryx vittatus, Linn.—Catford, in ditches, 1898 (W.W.).

Eupteryx urticæ, Fab.—Common, Kidbrook, Lewisham, on nettles, 1900 (W.W.).

Eupteryx stachydearum, Hardy.—Lewisham, on tansy (J.W.D.).

Eupteryx melissæ, Curt.—Common, Lee, Kidbrook, Plumstead, on various plants (W.W.).

Eupteryx auratus, Liv.—Common, Lee, Lewisham, Shooter's Hill, on nettles (W.W.).

Eupteryx atropunctata, Goeze.—Common, Greenwich, Catford, on various plants (W.W.).

Eupteryx abrotani, Dougl.—Lewisham (J.W.D.).

Eupteryx germari, Zett.—Bostall Wood, on pines (W.W.).

Eupteryx pulchellus, Fall.—Common, Blackheath, Abbey Wood, on oaks (W.W.).

Eupteryx concinna, Germ.—Not common, Shooter's Hill, Blackheath, on oak and beech (W.W.).

Typhlocyba jucunda, H.-Sch. — Common, Catford, on alders (W.W.).

Typhlocyba sexpunctata, Fall.—Not common, Catford, Brockley, on sallows (W.W.).

Typhlocyba debilis, Dougl.—Rare, Kidbrook, beating maple, 1899 (W.W.).

Typhlocyba ulmi, Linn.—Common, Blackheath, Lee, Lewisham, Plumstead, on elm. (W.W.).

Typhlocyba tenerrima, H.-Sch. — Common, Kidbrook, Lee, on brambles (W.W.).

Typhlocyba aurovittata, Dougl.—Rare, Kidbrook, beating oak bushes, 1899 (W.W.).

Typhlocyba gratiosa, Boh. — Blackheath Park, on beech, 1900 (W.W.).

Typhlocyba cratægi, Dougl.—Common, Lee, Greenwich, Kidbrook, Blackheath, on whitethorn (W.W.).

Typhlocyba lethierryi, Edw.—Common, Blackheath, Lee, Lewisham on various trees (W.W.).

Typhlocyba rosæ, Linn.—Common, Kidbrook, on roses (W.W.).

Typhlocyba salicicola, Edw.—Common, Catford, on sallows (W.W.).

Typhlocyba hippocastani, Edw.—Lewisham, on underside of horse-chestnut leaves (J.W.D.).

Typhlocyba avellanæ, Edw.—Kidbrook, Lee, on hazel (W.W.); Lewisham, on underside of hazel leaves (J.W.D.).

Typhlocyba opaca, Edw.—Greenwich Park, one on horse-chestnut, 1899 (W.W.); Lewisham (J.W.D.).

Typhlocyba candidula, Kir.—This addition to the British fauna was captured commonly on *Populus alba*, at Blackheath, Lee, Brockley, during September, 1899 (W.W.).

Typhlocyba quercûs, Fall.—Common, Blackheath, Lee, Lewisham, Plumstead, on oak (W.W.).

Typhlocyba nitidula, Fab.—Blackheath, Lee, on elm, 1900 (W.W.).

Typhlocyba geometrica, Schr.—Common, Catford, on alders (W.W.).

Zygina alneti, Dahl.—Catford, on alders (W.W.).

Zygina flammigera, Geoff.—Common, Blackheath, Lee, Lewisham, on oak, and whitethorn. (W.W.).

Zygina hyperica, H.-Sch.—Plumstead, on *Hypericum* (W.W.).

PSYLLINA.

APHALARIDÆ.

Rhinocola ericæ, Curt.—Plumstead, on heath (W.W.).

Rhinocola aceris, Linn.—Not common, Kidbrook, Lee, on maple, 1902 (W.W.).

Aphalara nervosa, Först.—Rare, Lewisham, on *Achillea millefolium* (W.W.); Bromley (J.W.D.); Lee (J.S.).

PSYLLIDÆ.

Psyllopsis fraxinicola, Först.—Catford, on ash (W.W.); Lee (J S.).

Psyllopsis fraxini, Linn.—Catford, Abbey Wood, on ash (W.W.); Lee (J.S.).

Psylla cratægi, Schr.—Lee (D. and S.).

Psylla salicicola, Först.—Lee, on sallows (W.W.).

Psylla ambigua, Först.—Grove Park, Lee, on sallows (W.W.).

Psylla pineti, Flor.—Plumstead, on firs (W.W.).

Psylla betulæ, Linn.—Shooter's Hill, on birch (W,W.).

Psylla costalis, Flor.—Plumstead, on sallows (W.W.).

Psylla peregrina, Först.—Blackheath, Lee, on whitethorn (W.W.).

Psylla alni, Linn.—Common, Catford, on alders (W.W.).

Psylla försteri, Flor.—Common, Catford, on alders (W.W.).

Psylla buxi, Linn.—Greenwich Park, on horse chestnut (W.W.).

Psylla spartii, Guer.—Plumstead, on broom (W.W.).

Arytæna genistæ, Latr.—Plumstead, on broom (W.W.).

TRIOZIDÆ.

Trioza urticæ, Linn.—Common Lee, Lewisham, Kidbrook, Plumstead, on nettles (W.W.).

Trioza viridula, Zett.—Lee (P. G.).

Trioza chenopodii, Reut.—Plumstead Marshes, on *Chenopodium,* 1905 (W.W.).

B. ODONATA (Dragonflies).

The dragonflies of the district have apparently never been studied or systematically collected, the only records available appear to be the following :—

Sympetrum striolatum, Charp.—Blackheath (Edwards).

Libellula depressa, Linn.—Blackheath (Edwards).

Libellula fulva, Müll.—Deptford (Bath).

Orthetrum cancellatum, Linné.—Crayford, Dartford (Bath).

Cordulegaster annulatus, Ltr.—Lee (Edwards).

Anax imperator, Leach.—Burnt Ash Lane (McLachlan).

Æschna grandis, Linn.—Blackheath (H.J.T.).

Enallagma cyathigerum, Charp.—Lee (Edwards).

C. COLEOPTERA (Beetles).

The list of Coleoptera for the district is an exceedingly fine one ; possibly no district has been better worked by first-class entomologists during the past 50 years, but of these, many have died without leaving any record of their work, whilst others are not able to give us their results within the time at their disposal. However, W. West, of Greenwich, has kindly come forward, and one feels that there is little missed even had a more extensive series of contributors added to the list. With more contributors, more localities might have been added, but one suspects very few more species. Whilst, therefore, our thanks are due to all helpers, the list must be considered essentially as due to the work done by W. West. The initials used in the body of the list are as follows :—

S.A. = S. Ashby.
G.C.C. = G. C. Champion.
J.W.D. = J. W. Douglas.
W.W.F. = Canon W. W. Fowler.
J.S. = John Scott.
H.J.T. = Hy. J. Turner.
W. W. = W. West.

The basis of the work therefore is the MS. list of W. West; but there are also extracts from Canon Fowler's "Coleoptera of the British Islands," as well as the MS. list from S. Ashby, and a few old records from various sources.

CICINDELIDÆ.

2. **Cicindela campestris,** L.—Common on the Brighton Railway bank, Brockley (W.W.).

CARABIDÆ.

6. **Cychrus rostratus,** L. — Under leaves, Shooter's Hill, 1886 (W.W.).
7. **Carabus catenulatus,** Scop.—Lewisham and Blackheath (W.W.); Eltham (S.A.).
9. **Carabus nemoralis,** Müll.—Lewisham and Blackheath (W.W.); Eltham (S.A.).
11. **Carabus violaceus,** L.—Common throughout district, Eltham (W.W. & S.A.).
14. **Carabus granulatus,** L.—Under bark of willows on the banks of the Ravensbourne, Catford, 1875 (W.W.).
18 **Notiophilus biguttatus,** F.—Common everywhere (W.W. & S.A.).
19. **Notiophilus substriatus,** Wat.—Greenwich Park (W.W.).
22. **Notiophilus palustris,** Duft.—Lee, common (W.W.); Keston (Sauzé).
23. **Notiophilus rufipes,** Curt.—One only, Blackheath, 1890 (W.W.).
24. **Leistus spinibarbis,** F.—Lee and Lewisham (W.W.).
27. **Leistus ferrugineus,** L.—Lewisham and Plumstead (W.W.).
31. **Nebria brevicollis,** F.—Common everywhere (W.W.).
35. **Elaphrus riparius,** L.—On the banks of ponds, Lee (W.W.).
36. **Elaphrus cupreus,** Duft. —One in sallow, Lee pit, 1884 (W.W.).
39. **Loricera pilicornis,** F.—Lee, common, (W.W.).
40. **Clivina fossor,** L.—Lee, common, (W.W.).
41. **Clivina collaris,** Hbst.—Common under flood refuse, Plumstead Marshes (W.W.).
45. **Dyschirius politus,** Dj.—Burnt Ash Lane, Lee, banks of ponds, 1880 (W.W.).
50. **Dyschirius æneus,** Dj.—Burnt Ash Lane, Lee, banks of ponds, 1880 (W.W.).
51. **Dyschirius globosus,** Hbst.—Burnt Ash Lane, Lee, banks of ponds, 1880 (W.W.).

57. **Badister bipustulatus,** F.—Common—Lee (W.W.)
63. **Chlænius vestitus,** Pk.—In swampy places, Lee (W.W. & S.A.).
65. **Chlænius nigricornis,** F.—In swampy places, Lee (W.W. & S.A.).
68. **Stenolophus teutonus,** Schr.—Greenwich Park, 1878 (W.W.).
69. **Stenolophus skrimshiranus,** Steph.—Lee pit, 1884 (W.W.).
71. **Stenolophus vespertinus,** Pz.—Very common (W.W.).
75. **Acupalpus exiguus,** Dj. (var. **luridus,** Dj.).—Common, Lee pit (W.W.).; Eltham (S.A.).
77. **Acupalpus meridianus,** L.—Common, Lee pit (W.W.) ; Eltham (S.A.).
78. **Acupalpus consputus,** Duft.—Not common, Lee (W.W.).
82. **Bradycellus verbasci,** Duft.—Common throughout the district (W.W.); Eltham (S.A.).
83. **Bradycellus harpalinus,** Dj.—Common throughout the district (W.W.); Eltham (S.A.).
85. **Bradycellus similis,** Dj.—Plumstead (W.W.).
88. **Harpalus rotundicollis,** Fair.—Plumstead Marshes, 1901 (W.W.).
94. **Harpalus rufibarbis,** F.—Blackheath, 1874 (W.W.).
96. **Harpalus ruficornis,** F.—Common, Lewisham (W.W.).
97. **Harpalus æneus,** F.—Common, Lewisham (W.W.).
101. **Harpalus rubripes,** Duft.—Wickham Lane, Plumstead, 1891 (W.W.).
107. **Harpalus melancholicus,** Dj.—Wickham Lane, Plumstead, 1891 (W.W.).
108. **Harpalus tardus,** Brit. Cat.—Blackheath and Lee, common (W.W.).
110. **Harpalus anxius,** Duft.—Blackheath and Lee, common (W.W.).
116. **Dichirotrichus obsoletus,** Dj.—Banks of the Thames, Belvedere (W.W.).
117. **Dichirotrichus pubescens,** Pk.—Plumstead Marshes (W.W.).
123. **Stomis pumicatus**, Pz.—Blackheath, 1882 (W.W.).
124. **Platyderus ruficollis,** Marsh.—Plumstead and Greenwich (W.W.).
125. **Pterostichus cupreus,** L.—Kidbrook, Lee and Lewisham, common (W.W.).
126. **Pterostichus versicolor,** Stm.—Wickham Lane, Plumstead, common (W.W. & S.A.).
129. **Pterostichus madidus,** F.—Wickham Lane, Plumstead, common (W.W. & S.A.)

135. **Pterostichus niger,** Schal. — Wickham Lane, Plumstead, common (W.W & S.A.).
136. **Pterostichus vulgaris,** L. — Wickham Lane, Plumstead, common (W.W. & S.A.).
138. **Pterostichus nigrita,** F.—On swampy ground, Lee pit (W.W.).
140. **Pterostichus minor,** Gyll.—On swampy ground, Lee pit (W.W.).
141. **Pterostichus strenuus,** Pz.—On swampy ground, Lee pit (W.W.).
142. **Pterostichus diligens,** Stm.—On swampy ground, Lee pit (W.W.).
143. **Pterostichus picimanus,** Duft.—Brick-fields, Brockley (W.W.).
144. **Pterostichus inæqualis,** Marsh.—Lee pit (W.W.).
145. **Pterostichus vernalis,** Pz.—Common, Lee (W.W.).
146. **Pterostichus striola,** F.—Blackheath (W.W.).
147. **Amara fulva,** De G.—Blackheath (W.W.).
148. **Amara apricaria,** Pk.—Lewisham, common, Plumstead (W.W.).
149. **Amara consularis,** Duft.—Lewisham, common, Plumstead (W.W.).
150. **Amara aulica,** Pz.—Lewisham, Lee, common (W.W.).
151. **Amara convexiuscula,** Marsh.—Greenwich and Plumstead Marshes (W.W.).
156. **Amara bifrons,** Gyll. — Wickham Lane, Plumstead, 1878 (W.W.).
160. **Amara similata,** Gyll.—Greenwich Marshes (W.W.).
163. **Amara tibialis,** Pk.—Common, Lee (W.W.).
164. **Amara lunicollis,** Schiöd.—Kidbrook (W.W.).
168. **Amara familiaris,** Duft.—Common, Lee (W.W.).
169. **Amara lucida,** Duft.—Blackheath (W.W.).
170. **Amara trivialis,** Gyll.—Common everywhere (W.W.).
171. **Amara communis,** Pz.—Common everywhere (W.W.).
174. **Amara plebeia,** Gyll.—Kidbrook (W.W.).
175. **Calathus cisteloides,** Pz.—Common (W.W.); Swanley (Sauzé).
179. **Calathus melanocephalus,** L.—Common (W.W.).
181. **Amphigynus piceus,** Marsh.—Blackheath (W.W.).
182. **Taphria nivalis,** Pz.—One specimen only, Blackheath, 1876 (W.W.).
183. **Pristonychus terricola,** Hbst.—Lee and Lewisham (W.W.).

185. **Sphodrus leucophthalmus,** L. — In cellars, Greenwich, 1907 (W.W.).
186. **Anchomenus angusticollis,** F.—Shooter's Hill, under bark (W.W.).
187. **Anchomenus dorsalis,** Müll. — Lee pit (W.W.); Bromley (Sauzé).
188. **Anchomenus albipes,** F.—Lee pit (W.W.).
189. **Anchomenus oblongus,** F.—Lee pit (W.W.).
191. **Anchomenus marginatus,** L.—Lee pit (W.W.).
194. **Anchomenus parumpunctatus,** F.—Lee pit (W.W.).
197. **Anchomenus viduus,** Pz. var. **mœstus,** Duft.—Lee pit (W.W.).
201. **Anchomenus fuliginosus,** Pz.—Hither Green Lane (W.W.).
202. **Anchomenus gracilis,** Gyll.—Near Lee pond, 1857 (J.W.D.).
204. **Anchomenus thoreyi,** Dj.—Plumstead Marshes (W.W.).
205. **Anchomenus puellus,** Dj.—Plumstead Marshes (W.W.).
207. **Olisthopus rotundatus,** Pk.—Greenwich and Lee (W.W.).
214. **Bembidium rufescens,** Guér.—Lee pit (W.W.).
215. **Bembidium quinquestriatum,** Gyll.—Hot beds, Blackheath (W.W.).
216. **Bembidium obtusum,** Stm.—Common (W.W.).
217. **Bembidium guttula,** F.—Common (W.W.).
218. **Bembidium mannerheimi,** Sahl.—Lee pit (W.W.).
219. **Bembidium biguttatum,** F.—Greenwich Marshes (W.W.).
221. **Bembidium riparium,** Ol.—Plumstead Marshes (W.W.).
225. **Bembidium clarki,** Daws.—Lee pit (W.W.).
229. **Bembidium minimum,** F.—Lee pit (W.W.).
233. **Bembidium lampros,** Hbst.—Common (W.W.).
235. **Bembidium tibiale,** Duft.—Common (W.W.).
238. **Bembidium nitidulum,** Marsh.—Common (W.W.).
242. **Bembidium 4-guttatum,** F.—Burnt Ash Lane, Lee (W.W.).
245. **Bembidium 4-maculatum,** L.—Burnt Ash Lane, Lee (W.W.).
246. **Bembidium lunatum,** Duft.—Shooter's Hill and Greenwich Marshes (W.W.).
248. **Bembidium concinnum,** Steph.—Plumstead Marshes (W.W.).
249. **Bembidium femoratum,** Stm.—Common (W.W.).
253. **Bembidium littorale,** Ol.—Common (W.W.).
262. **Bembidium varium,** Ol.—Common (W.W.).
265. **Bembidium paludosum,** Pz.—Shooter's Hill (W.W.).

268. **Tachypus flavipes,** L.—Lee pit (W.W.).

277. **Trechus minutus,** F.—Lewisham (W.W.).

278. **Trechus obtusus,** Er.—Lewisham (W.W.).

285. **Pogonus littoralis,** Duft.—Erith (W.W.).

292. **Lebia chlorocephala,** Hoff. var. **chrysocephala,** Mots.—Wickham Lane, Plumstead, under broom, 1875 (W.W.).

297. **Demetrias atricapillus,** L.—Common (W.W.).

299. **Dromius linearis,** Ol.—Common (W.W.).

301. **Dromius meridionalis,** Dj.—Under bark, Greenwich (W.W.); Eltham (S.A.).

302. **Dromius 4-maculatus,** L.—Under bark, Greenwich (W.W.); Eltham (S.A.).

303. **Dromius 4-notatus,** Pz.—Under bark, Greenwich (W.W.); Eltham (S.A.).

305. **Dromius melanocephalus,** Dj.—Common (W.W.).

309. **Blechrus maurus,** Stm.—Common (W.W.).

310. **Metabletus foveola,** Gyll.—Common (W.W.).

312. **Metabletus obscuro-guttatus,** Duft.—Blackheath (W.W.).

316. **Brachinus crepitans,** L.—Burnt Ash Lane, Lee (W.W.).

HALIPLIDÆ.

317. **Brychius elevatus,** Pz.—One only in Ravensbourne, Catford, 1887 (W.W.).

318. **Haliplus obliquus,** F.—In ponds, Burnt Ash Lane, Lee, 1876 (W.W.).

319. **Haliplus confinis,** Steph.—In ponds, Burnt Ash Lane, Lee, 1876 (W.W.).

321. **Haliplus flavicollis,** Stm.—In ponds, Burnt Ash Lane, Lee, 1876 (W.W.).

322. **Haliplus fulvus,** F.—In ponds, Burnt Ash Lane, Lee, 1876 (W.W.).

324. **Haliplus cinereus,** Aub.—In ponds, Burnt Ash Lane, Lee, 1876 (W.W.).

325. **Haliplus ruficollis,** De G.—In ponds, Burnt Ash Lane, Lee, 1876 (W.W.).

326. **Haliplus fluviatilis,** Aub.—In ditches, Plumstead Marshes (W.W.).

328. **Haliplus lineatocollis,** Marsh.—Common (W.W.).

PELOBIIDÆ.

330. **Pelobius tardus,** Hbst.—Lee pit, Plumstead (W.W.).

DYTISCIDÆ.

332. **Noterus sparsus,** Marsh.—Common (W.W.).
333. **Laccophilus interruptus,** Pz.—Common (W.W.).
334. **Laccophilus obscurus,** Pz.—Common (W.W.).
339. **Bidessus geminus,** F.—Lee pit and Brockley, 1890 (W.W.).
340. **Hyphydrus ovatus,** L.—Common (W.W.).
343. **Cœlambus inequalis,** F.—Common, Lee and Lewisham (W.W.).
344. **Cœlambus decoratus,** Gyll.—Common, Lee and Lewisham (W.W.).
345. **Cœlambus confluens,** F.—Common, Lee and Lewisham (W.W.).
347. **Cœlambus parallelo-grammus,** Ahr. — Common, Lee and Lewisham (W.W.).
348. **Cœlambus impressopunctatus,** Schal.—Common, Lee and Lewisham (W.W.).
351. **Deronectes depressus,** F.—In Ravensbourne, Catford (W.W.).
352. **Deronectes 12-pustulatus,** F.—In Ravensbourne, Catford (W.W.).
354. **Hydroporus pictus,** F.—Lee and Lewisham (W.W.).
363. **Hydroporus dorsalis,** F.—Lee and Lewisham (W.W.).
364. **Hydroporus lineatus,** F.—Lee and Lewisham (W.W.).
369. **Hydroporus angustatus,** Stm.—Lee and Lewisham (W.W.).
370. **Hydroporus vittula,** Er.—Lee and Lewisham (W.W.).
373. **Hydroporus palustris,** L.—Lee and Lewisham (W.W.).
395. **Hydroporus erythrocephalus,** L.—Lee and Lewisham (W.W.).
381. **Hydroporus obscurus,** Stm.—Lee and Lewisham (W.W.).
384. **Hydroporus pubescens,** Gyll.—Lee and Lewisham (W.W.).
385. **Hydroporus planus,** F.—Lee and Lewisham (W.W.).
386. **Hydroporus lituratus,** F.—Lee and Lewisham (W.W.).
391. **Agabus guttatus,** Pk.—River Quaggy, Lee (W.W.).
393. **Agabus paludosus,** F.—River Quaggy, Lee (W.W.).
397. **Agabus unguicularis,** Th.—Lee pit (W.W.).
398. **Agabus didymus,** Ol.—Running streams, Lee (W.W.).
400. **Agabus nebulosus,** Först. — Lee and Brockley brick-fields (W.W.).
401. **Agabus conspersus,** Marsh.—Erith, in brackish water (W.W.).

406. **Agabus stuimi,** Gyll.—Lee, Lewisham and Plumstead (W.W.).
417. **Agabus chalconotus,** Pz.—Eltham in ditches (W.W.).
409. **Agabus bipustulatus,** L. — Common, red var, Plumstead (W.W.); Bromley (Sauzé).
410. **Platambus maculatus,** L.—Ravensbourne, Catford (W.W.).
411. **Ilybius fuliginosus,** F.—Ravensbourne, Catford (W.W.).
413. **Ilybius fenestratus,** F.—Lewisham and Eltham (W.W.).
414. **Ilybius ater,** De G.—Lee and Brockley (W.W.).
415. **Ilybius obscurus,** Marsh.—Lee pit (W.W.).
416. **Ilybius guttiger,** Gyll.—In the remains of the old Surrey canal, Forest Hill, 1870 (W.W.).
418. **Copelatus agilis,** F.—Lee pit and Brockley (W.W.).
419. **Rhantus grapii,** Gyll.—Forest Hill (W.W.).
421. **Rhantus pulverosus,** Steph.—Lee pit and Brockley (W.W.).
422. **Rhantus notatus,** Berg.—Erith, in brackish water (W.W.).
425. **Colymbetes fuscus,** L.—Common (W.W.).
426. **Dytiscus punctulatus,** F.—Lee pit (W.W.).
427. **Dytiscus marginalis,** L.—Common (W.W.).
428. **Dytiscus circumflexus,** F.—Lee pit and Plumstead (W.W.).
433. **Hydaticus seminiger,** De G.—Lee pond, rare, 1856 (W.W.).
434. **Acilius sulcatus,** L.—Common (W.W.).

NOTE.—Many of the localities given for the water-beetles are now built on.

GYRINIDÆ.

442. **Gyrinus natator,** Scop.—Lewisham, Greenwich, and Plumstead (W.W.); Southend, Beckenham (Sauzé).
445. **Gyrinus marinus,** Gyll.—Lewisham and Lee (W.W.).
447. **Orectochilus villosus** Müll.—In the Ravensbourne, Catford (W.W.).

HYDROPHILIDÆ.

448. **Hydrophilus piceus,** L.— Lewisham, Lee, and Plumstead (W.W.).
449. **Hydrochares caraboides,** L.—Brockley (W.W.).
450. **Hydrobius fuscipes,** L.—Common (W.W.).
451. **Hydrobius oblongus,** Hbst.—Erith (W.W.).
452. **Philydrus testaceus,** F.—Lee and Lewisham (W.W.).
453. **Philydrus maritimus,** Th.—Erith (W.W.).

454. **Philydrus nigricans,** Zett.—Lee and Brockley (W.W.).
455. **Philydrus melanocephalus,** Ol.—Lee and Greenwich (W.W.).
457. **Philydrus coarctatus,** Gred.—Lee pit (W.W.).
458. **Cymbiodyta ovalis,** Th.—Lee pit (W.W.).
459. **Enochrus bicolor,** Pk.—Lee pit (W.W.).
461. **Anacæna globulus,** Pk.—Lee and Lewisham (W.W.).
462. **Anacæna limbata,** F.—Lee and Lewisham (W.W.).
463. **Anacæna bipustulata,** Steph.—Lee and Lewisham (W.W.).
464. **Helochares lividus,** Först.—Common (W.W.).
466. **Laccobius sinuatus,** Mot.—Lewisham (W.W.).
467. **Laccobius alutaceus,** Th.—Brockley (W.W.).
469. **Laccobius bipunctatus,** F.—Lewisham (W.W.).
472. **Berosus luridus,** L.—Lee pit (W.W.).
473. **Berosus affinis,** Brul.—Plumstead (W.W.).
475. **Limnebius papposus,** Mul.—Lee and Plumstead (W.W.).
476. **Limnebius nitidus,** Marsh.—Brockley (W.W.).
477. **Limnebius picinus,** Marsh.—Lee pit. One specimen (W.W.).
478. **Chætarthria seminulum,** Pk.—Lee pit. One specimen (W.W.).
481. **Helophorus rugosus,** Ol.—Blackheath gravel pits (W.W.).
482. **Helophorus nubilus,** F.—Kidbrook and Lewisham (W.W.).
484. **Helophorus aquaticus,** L.—Common (W.W.).
489. **Helophorus mulsanti,** Rye.—Plumstead Marshes (W.W.).
492. **Helophorus brevipalpis,** Bed.—Plumstead Marshes (W.W.).
494. **Helophorus nanus,** Stm.—Lee pit (W.W.).
498. **Hydrochus angustatus,** Germ.—Common (W.W.).
501. **Ochthebius exaratus,** Muls.—Plumstead Marshes (W.W.).
502. **Ochthebius margipallens,** Lat.—Lewisham (W.W.).
503. **Ochthebius marinus,** Pk.—Plumstead (W.W.).
505. **Ochthebius pygmæus,** F.—Lee and Plumstead (W.W.).
507. **Ochthebius rufimarginatus,** Steph.—Lewisham (W.W.).
514. **Hydræna riparia,** Kug.—Catford; in the Ravensbourne (W.W.).
521. **Cyclonotum orbiculare,** F.—Lee pit and Kidbrook (W.W.).
522. **Sphæridium scarabæoides,** L.—Lee pit and Kidbrook (W.W.).
523. **Sphæridium bipustulatum,** F.; and var. **marginatum,** F.—Lee pit and Kidbrook (W.W.).

524. **Cercyon littoralis,** Gyll.—River bank, Erith, Plumstead (W.W.).

525. **Cercyon depressus,** Steph.—River bank, Erith, Plumstead (W.W.).

527. **Cercyon hæmorrhoidalis,** F.—Blackheath and Plumstead (W.W.).

528. **Cercyon obsoletus,** Gyll.—Lee pit (W.W.).

529. **Cercyon marinus,** Th.—From Plumstead to Erith.

531. **Cercyon flavipes,** F.—Blackheath, very common (W.W.).

533. **Cercyon melanocephalus,** L.— Blackheath, very common (W.W.); Bromley (Sauzé).

534. **Cercyon unipunctatus,** L.—Blackheath, very common (W.W.).

535. **Cercyon quisquilius,** L.—Westcombe Park (W.W.); Bromley (Sauzé).

536. **Cercyon nigriceps,** Marsh.—Greenwich, in hot-beds (W.W).

537. **Cercyon pygmæus,** Ill. — Blackheath (W.W.); Bromley (Sauzé).

538. **Cercyon terminatus,** Marsh.—Greenwich, in hot-beds, 1890 and 1903 (W.W.).

539. **Cercyon analis,** Pk.—Kidbrook, under vegetable refuse, 1903 (W.W.).

540. **Cercyon lugubris,** Pk.—Kidbrook, under vegetable refuse, 1903 (W.W.).

543. **Megasternum boletophagum,** Marsh.—Lewisham (W.W.).

544. **Cryptopleurum atomarium,** Ol.—Common (W.W.); Bromley (Sauzé).

STAPHYLINIDÆ.

547. **Aleochara fuscipes,** F.—Blackheath (W.W.).

548. **Aleochara lata,** Gr.—Blackheath (W.W.).

555. **Aleochara lanuginosa,** Gr.—Kidbrook, very abundant (W.W.).

558. **Aleochara mœsta,** Gr.—Common (W.W.).

563. **Aleochara nitida,** Gr.; and var. **bilineata,** Gyl.—Common (W.W.); Bromley (Sauzé).

564. **Aleochara morion,** Gr.—Kidbrook, in vegetable refuse (W.W.).

567. **Aleochara algarum,** Fauv.—River bank, Erith (W.W.).

571. **Microglossa pulla,** Gyll.—Forest Hill, in carrion (W.W.).

576. **Oxypoda lividipennis,** Man.—Belvedere (W.W.).

577. **Oxypoda vittata,** Märk.—Lewisham (W.W.).

578. **Oxypoda opaca,** Gr.—Plumstead (W.W.).
579. **Oxypoda alternans,** Gr.—Common (W.W.).
584. **Oxypoda pectita,** Shp.—Eltham and Forest Hill (W.W.).
588. **Oxypoda longiuscula,** Gr.—Lewisham (W.W.).
601. **Thiasophila inquilina,** Märk.—Charlton (Dr. Power).
603. **Ischnoglossa corticina,** Er.—Bromley (W.W.).
607. **Ocyusa maura,** Er.—Blackheath (W.W.).
618. **Calodera nigrita,** Man.—Forest Hill (W.W.).
621. **Calodera rubens,** Er.—Lee pit (Dr. Power).
623. **Chilopora longitarsis,** Er.—Catford (W.W.).
625. **Dinarda märkeli,** Kies.—Plumstead (W.W.F.).
628. **Atemeles paradoxus,** Gr.—Charlton (W.W.F.).
638. **Drusilla canaliculata,** F.—Common (W.W.).
640. **Callicerus rigidicornis,** Er.—Lewisham (W.W.F.).
641. **Thamiaræa cinnamomea,** Gr. — In *Cossus*-infected trees, Lewisham (W.W.).
644. **Nototheeta confusa,** Märk.—Charlton (Dr. Power).
646. **Alianta incana,** Er.—Lee pit, on water-plants (W.W.).
649. **Homalota languida,** Er.—Bromley (W.W.F.).
655. **Homalota gregaria,** Er.—Lee and Lewisham, common (W.W.).
669. **Homalota elongatula,** Gr.—Lewisham (W.W.).
673. **Homalota vestita,** Gr.—Erith (W.W.).
677. **Homalota silvicola,** Fuss.—Bexley (W.W.F.).
678. **Homalota vicina,** Steph.—Lewisham, common (W.W.).
681. **Homalota graminicola,** Gr. — Plumstead, in flood refuse (W.W.).
685. **Homalota occulta,** Er.—Forest Hill (W.W.F.).
691. **Homalota nigella,** Er.—Blackheath (W.W.).
692. **Homalota æquata,** Er.—Blackheath (W.W.).
693. **Homalota angustula,** Gyll.—Lewisham (W.W.).
696. **Homalota debilis,** Er.—Lee (W.W.F.).
697. **Homalota fallaciosa,** Shp.—Lee (Champion).
698. **Homalota deformis,** Kr.—Eltham (W.W.).
700. **Homalota circellaris,** Gr.—Greenwich (W.W.).
704. **Homalota splendens,** Kr.—Charlton (Sharp).
711. **Homalota gemina,** Er.—Lee (W.W.F.).
713. **Homalota vilis,** Er.—Eltham, very rare (Sharp).

714. **Homalota laticeps,** Th.—Lee, very rare (Champion).
715. **Homalota analis,** Gr.—Lewisham, common (W.W.).
716. **Homalota decipiens,** Shp.—Lee and Charlton (W.W.F.)
719. **Homalota soror,** Kr.—Lee, in marshy places (W.W.).
725. **Homalota depressa,** Gyll.—Lee and Lewisham (W.W.).
730. **Homalota xanthoptera,** Steph.—Lewisham (W.W.).
733. **Homalota euryptera,** Steph.—Lewisham, under leaves (W.W.).
734. **Homalota trinotata,** Kr.—Lewisham (W.W.).
736. **Homalota xanthopus,** Th.—Charlton (W.W.F.).
738. **Homalota fungicola,** Th.—Lewisham (W.W.).
746. **Homalota clancula,** Er.—Lee, in refuse (W.W.F.).
750. **Homalota ravilla,** Er.—Bexley (W.W.F.).
762. **Homalota sericea,** Muls.—Catford (W.W.).
769. **Homalota nigra,** Kr.—Lee pit (W.W.).
771. **Homalota germana,** Sharp.—Lee (W.W.F.).
773. **Homalota sordidula,** Er.—Lee (W.W.F.).
774. **Homalota canescens,** Sharp.—Lee and Eltham (W.W.F.).
776. **Homalota villosula,** Kr.—Lee (W.W.).
778. **Homalota lævana,** Muls.—Lee and Bexley (W.W.F.).
782. **Homalota atramentaria,** Gyll.—Shooter's Hill (W.W.).
784. **Homalota marcida,** Er.—Lewisham (W.W.).
785. **Homalota intermedia,** Th.—Lewisham (W.W.).
786. **Homalota longicornis,** Gr.—Lee pit, under leaves (W.W.).
788. **Homalota sordida,** Marsh.—Lee pit, under leaves (W.W.).
789. **Homalota testudinea,** Er.—Shooter's Hill (W.W.).
790. **Homalota aterrima,** Gr.—Lewisham (W.W.).
793. **Homalota pilosiventris,** Th.—Lee (W.W.F.).
799. **Homalota fungi,** Gr.—Lee and Lewisham, (W.W.).
805. **Ischnopoda cœrulea,** Sahl.—Charlton (W.W.F.).
809. **Tachyusa flavitarsis,** Sahl.—Lee (W.W.).
812. **Tachyusa concolor,** Er.—Forest Hill, rare (W.W.F.).
816. **Falagria sulcata,** Pk.—Vegetable refuse, Lewisham (W.W.); Chislehurst (S.A.).
818. **Falagria thoracica,** Curt.—Vegetable refuse, Lewisham (W.W.); Chislehurst (S.A.).
819. **Falagria obscura,** Gr.—Vegetable refuse, Lewisham (W W.); Chislehurst (S.A.).

820. **Autalia impressa,** Ol.—Shooter's Hill, in fungus (W.W.).
821. **Autalia rivularis,** Gr.—Greenwich, in hot-beds (W.W.).
825. **Gyrophæna pulchella,** Heer.—Abbey Wood (W.W.).
826. **Gyrophæna affinis,** Man.—Lewisham (W.W.).
828. **Gyrophæna gentilis,** Er.—Bexley (W.W.F.).
829. **Gyrophæna nana,** Pk.—Shooter's Hill, in fungus (W.W.).
830. **Gyrophæna fasciata,** Marsh.—Shooter's Hill, in fungus (W.W.).
831. **Gyrophæna minima,** Er.—Shooter's Hill, in fungus (W.W.).
835. **Gyrophæna strictula,** Er.—Shooter's Hill, in fungus (W.W.).
847. **Sipalia ruficollis,** Er.—Blackheath (W.W.).
849. **Bolitochara lucida,** Gr.—West Wood, now destroyed, Welling, 1870 (W.W.).
851. **Bolitochara bella,** Märk.—West Wood, now destroyed, Welling, 1870 (W.W.).
852. **Bolitochara obliqua,** Er.—Bostall Wood (W.W.).
859. **Hygronoma dimidiata,** Gr.—Lee pit (W.W.).
860. **Oligota inflata,** Man.—Blackheath, on old walls (W.W.).
861. **Oligota parva,** Kr.—Lewisham and Kidbrook (W.W.).
868. **Myllæna dubia,** Gr.—Lee pit (W.W.E.).
869. **Myllæna intermedia,** Er.—Shooter's Hill (W.W.).
877. **Myllæna gracilis,** Mat.—Lewisham (W.W.).
882. **Deinopsis erosa,** Steph.—Hither Green Lane, Lee (W.W.).
883. **Hypocyptus longicornis,** Pk.—Common (W.W.).
890. **Conosoma littoreum,** L.—Shooter's Hill (W.W.).
891. **Conosoma pubescens,** Gr.—Plumstead and Lewisham (W.W.).
892. **Conosoma immaculatum,** Steph.—Blackheath (W.W.).
894. **Conosoma lividum,** Er.—Lee and Kidbrook (W.W.).
896. **Tachyporus obtusus,** L.—Shooter's Hill, in moss (W.W.)
898. **Tachyporus solutus,** Er.—Lewisham (W.W.).
899. **Tachyporus pallidus,** Shp.—Lee pit, common (W.W.).
900. **Tachyporus chrysomelinus,** L.—Common (W.W.).
901. **Tachyporus humerosus,** Er.—Blackheath (W.W.).
903. **Tachyporus hypnorum,** F.—Common (W.W.).
904. **Tachyporus pusillus,** Gr.—Lee pit (W.W.).
905. **Tachyporus brunneus,** F.—Common (W.W.).
908. **Cilea silphoides,** L.—Greenwich in hotbeds (W.W.).
911. **Tachinus humeralis,** Gr.—Blackheath (W.W.); Eltham (S.A.).

913. **Tachinus pallipes,** Gr.—Abbey Wood, in fungus, 1887 (W.W.).
914. **Tachinus scapularis,** Steph. — Greenwich, in hotbeds, 1890 (W.W.).
915. **Tachinus bipustulatus,** F.—Catford in *Cossus* burrow (W.W.).
916. **Tachinus rufipes,** De G.—Common (W.W.).
917. **Tachinus subterraneus,** L.—Blackheath (W.W.).
918. **Tachinus marginellus,** F.—Blackheath (W.W.).
919. **Tachinus laticollis,** Gr.—Blackheath (W.W.).
922. **Megacronus cingulatus,** Man.—Lee pit, 1876 (W.W.).
923. **Megacronus analis,** Pk.—Lee pit, 1876 (W.W.).
929. **Bolitobius lunulatus,** L.—Abbey Wood in fungus (W.W.).
930. **Bolitobius trinotatus,** Er.—Shooter's Hill in fungus (W.W.).
931. **Bolitobius exoletus,** Er.—Shooter's Hill in fungns (W.W.).
932. **Bolitobius pygmæus,** F.—Shooter's Hill in fungus (W.W.).
933. **Mycetoporus lucidus,** Er.—Bexley and Kidbrook (W.W.).
934. **Mycetoporus splendens,** Marsh.—Lee pit (W.W.).
936. **Mycetoporus lepidus,** Gr.—Plumstead (W.W.).
942. **Mycetoporus splendidus,** Gr.—Lee pit (W.W.).
944. **Habrocerus capillaricornis,** Gr.— Kidbrook, under leaves (W.W.).
945. **Trichophya pilicornis,** Gyll.—Forest Hill (W.W.).
950. **Heterothops dissimilis,** Gr.—Lewisham (W.W.).
951. **Heterothops quadripunctula,** Gr.—Forest Hill (W.W.).
955. **Quedius ventralis,** Ahr.—Greenwich Park, in decayed elm, Dec. 1880, rare (W.W.).
956. **Quedius lateralis,** Gr. — Kidbrook Lane, in fungus, 1905 (W.W.).
957. **Quedius mesomelinus,** Marsh.—In my own cellar, Lewisham, 1895 to 1900 (W.W.).
959. **Quedius fulgidus,** F.—In my own cellar, Lewisham, 1895 to 1900 (W.W.).
962. **Quedius cruentus,** Ol.—Lee and Plumstead (W.W.).
964. **Quedius scitus,** Gr.—Lee (J.S.).
965. **Quedius cinctus,** Pk.—Common throughout the district (W.W.).
966. **Quedius brevis,** Er.—Plumstead (W.W.F.).
967. **Quedius fuliginosus,** Gr.—Lee pit, at roots of grass (W.W.).
968. **Quedius tristis,** Gr. — Blackheath and Kidbrook, common (W.W.); Eltham (S.A.).

969. **Quedius molochinus,** Grav.—Blackheath and Kidbrook, common (W.W.); Eltham (S.A.).

970. **Quedius picipes,** Man.—Lee pit, under leaves (W.W.).

971. **Quedius nigriceps,** Kr.—Plumstead, not common, 1890 (W.W.).

972. **Quedius fumatus,** Steph. — Hither Green Lane, Lee, 1899 (W.W.).

973. **Quedius maurorufus,** Gr.—Lewisham, 1874, common (W.W.).

976. **Quedius suturalis,** Kies.—Blackheath and Lee, common (W.W.).

981. **Quedius rufipes,** Gr.—Shooter's Hill, common (W.W.).

982. **Quedius attenuatus,** Gyll.—Lewisham, 1895 (W.W.).

983. **Quedius semiæneus,** Steph.—Lewisham, common (W.W.).

985. **Quedius boops,** Gr.—Lewisham, common (W.W.).

987. **Creophilus maxillosus,** L.—Under decayed animal matter. Common everywhere (W.W.).

989. **Leistotrophus nebulosus,** F.—Lee and Lewisham (W.W.).

990. **Leistotrophus murinus,** L.—Kidbrook (W.W.).

991. **Staphylinus pubescens,** De G.—Blackheath (W.W.).

993. **Staphylinus stercorarius,** Ol.—Lee pit (W.W.).

996. **Staphylinus cæsareus,** Ceder.—Catford, at roots of willow (W.W.).

997. **Ocypus olens,** Müll.—Common everywhere (W.W.).

1000. **Ocypus brunnipes,** F.—Plumstead Marshes, 1898 (W.W.).

1002. **Ocypus cupreus,** Ross.—Catford and Brockley (W.W.).

1004 **Ocypus ater,** Gr.—Common under stones, Kidbrook and Greenwich marshes (W.W.).

1006. **Ocypus compressus,** Marsh.—Common under stones, Kidbrook and Greenwich Marshes (W.W.).

1007. **Philonthus splendens,** F. — Lewisham (W.W.); Bromley (Sauzé).

1008. **Philonthus intermedius,** Bois.—Lee pit and Kidbrook (W.W.).

1009. **Philonthus laminatus,** Creutz.—Lewisham (W.W.).

1010. **Philonthus æneus,** Ross.—Very common throughout the district (W.W.).

1013. **Philonthus carbonarius,** Gyll.—Blackheath, one only, 1874 (W.W.).

1017. **Philonthus politus,** F.—Lewisham, very common (W.W.).

1019. **Philonthus varius,** Gyll. and var. **bimaculatus,** Gr.—Lewisham, very common (W.W.).

1020. **Philonthus marginatus,** F.—Lewisham, very common (W.W.).

1022. **Philonthus albipes,** Gr.—Lee pit, Lewisham and Abbey Wood (W.W.).

1023. **Philonthus umbratilis,** Gr. — Lee and Eltham, rare, 1890 (W.W.).

1024. **Philonthus cephalotes,** Gr.—Lewisham and Shooter's Hill, not common (W.W.).

1026. **Philonthus fimetarius,** Gr.—Very common throughout the district (W.W.).

1027. **Philonthus sordidus,** Gr.—Very common throughout the district (W.W.).

1029. **Philonthus ebeninus,** Gr.—Shooter's Hill and Lee, not common (W.W.).

1031. **Philonthus fumigatus,** Er.—Plumstead, 1887 (W.W.).

1032. **Philonthus debilis,** Gr. — Shooter's Hill and Lewisham (W.W.).

1033. **Philonthus sanguinolentus,** Gr. — Blackheath, common (W.W.).

1034. **Philonthus cruentatus,** Gmel.—Blackheath, common (W.W.).

1035. **Philonthus longicornis,** Steph.—Lewisham and Lee (W.W.).

1036. **Philonthus varians,** Pk.—Blackheath, very common (W.W.).

1037. **Philonthus agilis,** Gr.—Lewisham, not common (W.W.).

1039. **Philonthus ventralis,** Gr.—Lewisham, not common (W.W.).

1040. **Philonthus discoideus,** Gr.—Lee and Kidbrook, not common (W.W.).

1041. **Philonthus quisquiliarius,** Gyll. and var. **dimidiatus,** Er.—Catford, not common (W.W.).

1045. **Philonthus fumarius,** Gr.—Lee pit, not common. 1879 (W.W.).

1046. **Philonthus micans,** Gr.—Lee pit, not common, 1879 (W.W.).

1049. **Philonthus trossulus,** Nor.—Common throughout the district (W.W.).

1052. **Philonthus punctus,** Gr.—Very rare.—One male and one female on the river bank, Plumstead, 1887 (W.W.).

1056. **Cafius xantholoma,** Gr.—Erith, under seaweed, 1906 (W.W.).

1059. **Actobius signaticornis,** Muls.—Lewisham, at roots of grass (W.W.).

1060. **Actobius villosulus,** Steph.—Erith (W.W.).

1061. **Actobius procerulus,** Gr.—Lee and Peckham (W.W.F.).

1064. **Xantholinus glabratus,** Gr.—Common, Kidbrook, Blackheath (W.W.).

1065. **Xantholinus punctulatus,** Pk.—Common, Lee, Lewisham (W.W.).

1066. **Xantholinus ochraceus,** Gyll.—Common, Lewisham (W.W.).

1072. **Xantholinus linearis,** Ol.—Common, Lewisham, Lee (W.W.).

1073. **Xantholinus longiventris,** Heer.—Common, Lewisham and Lee (W.W.).

1075. **Leptacinus parumpunctatus,** Gyll.—Sparingly, Lee (W.W.); Forest Hill (W.W.F.).

1077. **Leptacinus linearis,** Gr.—Common, Lewisham (W.W.).

1059. **Baptolinus alternans,** Gr.—Lewisham, in fungus (W.W.).

1080. **Othius fulvipennis,** F.—Common, Blackheath, Shooter's Hill (W.W.).

1081. **Othius læviusculus,** Steph.—Common, Kidbrook, in stack refuse (W.W.).

1083. **Othius myrmecophilus,** Kies.—Common, Lee (W.W.).

1084. **Lathrobium elongatum,** L.—Common, Lee pit, Plumstead (W.W.).

1086. **Lathrobium fulvipenne,** Gr.—Lee pit, common at roots of grass, 1870 (W.W.).

1087. **Lathrobium rufipenne,** Gyll.—Not common, Greenwich marshes (W.W.).

1089. **Lathrobium brunnipes,** F.—Lewisham common, (W.W.).

1090. **Lathrobium longulum,** Gr.—Not common, Lewisham, Plumstead (W.W.).

1093. **Lathrobium filiforme,** Gr.—Rare, Lee (W.W.).

1095. **Lathrobium terminatum,** Gr.—Common, Lee (W.W.).

1097. **Lathrobium multipunctum,** Gr.—Rare, Lee (W.W.).

1099. **Achenium depressum,** Gr.—Common, Lee pit, 1875 (W.W.).

1100. **Achenium humile,** Nic.—Rare, Lee pit, 1875 (W.W).

1103. **Stilicus rufipes,** Germ.—Common, Lewisham, Plumstead (W.W.).

1104. **Stilicus orbiculatus,** Pk.—Common, Eltham (W W.).

1107. **Stilicus affinis,** Er.—Common, Lee, Plumstead (W.W.).

1108. **Stilicus geniculatus,** Er.—Lee (W.W.F.).

1111. **Scopæus sulcicollis,** Steph.—Rare, Lee (W.W.F.).

1115. **Medon piceus,** Kr.—Very rare, Bexley Wood (G.C.C.).

1117. **Medon fusculus,** Man.—Kidbrook, one in vegetable refuse (W.W.); Forest Hill (W.W.F.).

1119. **Medon apicalis,** Kr.—Rare, Erith (W.W.F.).

1120. **Medon propinquus,** Bris.—Common, Lee pit, Kidbrook (W.W.).

1123. **Medon melanocephalus,** F.—Common, Lee, Plumstead (W.W.).

1123. **Medon obsoletus,** Nor.—Lewisham (W.W.).

1124. **Lithocharis ochracea,** Gr.—Not common, Lewisham (W.W.).

1125. **Sunius filiformis,** Lat.—Forest Hill and Burnt Ash Lane (Dr. Power).

1126. **Sunius intermedius,** Er.—Local, Lee (W.W.).

1127. **Sunius diversus,** Aub.—Lee (W.W.F.).

1128. **Sunius angustatus,** Pk.—Very common, Lewisham (W.W.).

1129. **Pæderus littoralis,** Gr. — Common, Brockley, Plumstead (W.W.).

1134. **Evæsthetus ruficapillus,** Lac.—Locally abundant, Lewisham (W.W.).

1137. **Stenus biguttatus,** L.—Not common, Lewisham (W.W.).

1138. **Stenus bipunctatus,** Er.—Burnt Ash Lane, common, 1882 (W.W.).

1140. **Stenus bimaculatus,** Gyll.—Common, Bromley, Eltham in wet places (W.W.).

1141. **Stenus asphaltinus,** Er.—Charlton, Erith (W.W.F.).

1142. **Stenus juno,** F.—Common, Blackheath, Plumstead (W.W.).

1147. **Stenus speculator,** Lac.—Very common, Lewisham (W.W.).

1152. **Stenus melanopus,** Marsh.—Lewisham (W.W.).

1160. **Stenus pusillus,** Er.—Not common, Lee pit (W.W.).

1161. **Stenus exiguus,** Er.—Rare, Plumstead (W.W.).

1163. **Stenus circularis,** Grav.—Very local, Eltham (W.W.F.).

1165. **Stenus declaratus,** Er. — Common, Lee, Shooter's Hill (W.W.).

1166. **Stenus crassus,** Steph.—Lee, Eltham (W.W.F.).

1170. **Stenus nigritulus,** Gyll.—Not uncommon in Lee, Greenwich (W.W.).

1171. **Stenus brunnipes.** Steph.— Common throughout district (W.W.).

1173. **Stenus ossium,** Steph.—Common, Shooter's Hill (W.W.).

1174. **Stenus fuscicornis,** Er.—Not common, Charlton (W.W.F.).

1176. **Stenus geniculatus,** Grav.—Plumstead (W.W.).

1178. **Stenus impressus,** Germ.—Common, Plumstead (W.W.).

1179. **Stenus ærosus,** Er.—Common, Lewisham (W.W.).
1181. **Stenus pallipes,** Gr.—Lee, Eltham (W.W.F.).
1182. **Stenus flavipes,** Steph.—Common, Bromley (W.W.).
1183. **Stenus pubescens,** Steph.—Common, Lewisham (W.W.).
1184. **Stenus binotatus,** Ljun.—Common, Lewisham (W.W.).
1186. **Stenus pallitarsis,** Steph.—Not uncommon, Lewisham (W.W.).
1189. **Stenus nitidiusculus,** Steph.—Lee (Dr. Power).
1190. **Stenus picipennis,** Er. —Peckham (W.W.F.).
1191. **Stenus picipes,** Steph.—Lewisham (W.W.).
1194. **Stenus cicindeloides,** Gr.—Common, Plumstead, Lewisham (W.W.).
1195. **Stenus similis,** Hbst.—Common, Lewisham, Shooter's Hill (W.W.).
1196. **Stenus solutus,** Er.—Rare, Blackheath, Lee (W.W.F.).
1197. **Stenus tarsalis,** Ljun.—Common, Lee, Plumstead (W.W.).
1201. **Oxyporus rufus,** L.—Abbey Wood, one only in fungus (W.W.).
1210. **Bledius subterraneus,** Er.—Peckham (W.W.F.).
1211. **Bledius longulus,** Er.—Charlton (W.W.F.).
1212. **Bledius fracticornis,** Payk.—Local, Charlton (W.W.F.).
1214. **Bledius opacus,** Bloc.—Charlton (W.W.F.).
1219. **Platystethus arenarius,** Fourc.—Common, Blackheath (W.W.).
1220. **Platystethus cornutus,** Gr.—Common, Lee (W.W.).
1222. **Platystethus capito,** Heer.—Not common, Lee (W.W.).
1223. **Platystethus nodifrons,** Sahlb.—Local, Forest Hill (W.W.F.).
1224. **Platystethus nitens,** Sahlb.—Rare, Brockley, Lee (W.W.F.).
1225. **Oxytelus rugosus,** F.—Common throughout district (W.W.).
1228. **Oxytelus sculptus,** Grav.—Common, Blackheath (W.W.).
1229. **Oxytelus laqueatus,** Marsh.—Common, Blackheath (W.W.).
1231. **Oxytelus inustus,** Grav.—Common, Greenwich, in hotbeds (W.W.).
1232. **Oxytelus sculpturatus,** Grav.—Common, Blackheath (W.W.).
1234. **Oxytelus nitidulus,** Grav.—Common, Lewisham (W.W.).
1235. **Oxytelus complanatus,** Er.—Common, Blackheath (W.W.).
1237. **Oxytelus tetracarinatus,** Block.—Common, Blackheath (W.W.).
1239. **Haploderus cælatus,** Gr.—Common, Blackheath (W.W.).
1245. **Trogophlœus elongatulus,** Er. — Plumstead Marshes, Lewisham (W.W.).

1248. **Trogophlœus corticinus,** Gr.—Lewisham (W.W.).

1250. **Trogophlœus pusillus,** Gr.—Common, Blackheath, in hotbeds (W.W.).

1259. **Syntomium æneum,** Müll.—Lee pit (W.W.).

1260. **Caprophilus striatulus,** F.—Common, Blackheath (W.W.); Beckenham (Sauzé).

1263. **Deleaster dichrous,** Gr.—Greenwich Park, one on the wing (W.W.).

1268. **Lesteva longelytrata,** Goeze.—Common, Lee (W.W.).

1250. **Lesteva pubescens,** Man.—Bromley (W.W.F.).

1274. **Acidota cruentata,** Man.—Rare, Greenwich Park, under leaves (W.W.).

1275. **Olophrum piceum,** Gyll.—Shooter's Hill, Lewisham (W.W.).

1278. **Lathrimæum atrocephalum,** Gyll. — Common, Lewisham, Abbey Wood (W.W.).

1279. **Lathrimæum unicolor,** Steph. — Common, Shooter's Hill (W.W.).

1285. **Philorinum sordidum,** Steph.—Common, Blackheath (W.W.)

1287. **Coryphium angusticolle,** Steph.—Forest Hill (W.W.F.).

1288. **Homalium rivulare,** Pk.—Common, Forest Hill, Plumstead (W.W.); Bromley (Sauzé).

1292. **Homalium riparium,** Th.—Common, Erith, under seaweed (W.W.).

1293. **Homalium allardi,** Fair.—Eltham (W.W.F.).

1296. **Homalium excavatum,** Steph.—Common throughout district (W.W.).

1297. **Homalium cæsum,** Gr.—Kidbrook 1903, (W.W.).

1298. **Homalium pusillum,** Gr.—Shooter's Hill (W.W.).

1301. **Homalium rufipes,** Fourc.—Common, Blackheath, Plumstead (W.W.).

1303. **Homalium vile,** Er.—Not common, Blackheath (W.W.).

1307. **Homalium planum,** Pk.—Peckham (W.W.).

1312. **Homalium striatum,** Gr.—Erith one only by sweeping (W.W.).

1313. **Hapalaræa pygmæa,** Ph.—Bromley (W.W.F.).

1318. **Anthobium ophthalmicum,** Pk.—Common, Kidbrook, on flowers (W.W.).

1319. **Anthobium torquatum,** Marsh.—Common, Plumstead on the flowers of broom (W.W.).

1320. **Anthobium sorbi,** Gyll.—Common, Lewisham, Lee (W.W.)

1321. **Proteinus ovalis,** Steph.—Common, Shooter's Hill (W.W.).

1322. **Proteinus brachypterus,** F.—Common, Grove Park, Lee (W.W.).

1325. **Megarthrus denticollis,** Beck.—Common, Lewisham (W.W.).

1326. **Megarthrus affinis,** Müll.—Common, Lee pit (W.W.).

1327. **Megarthrus depressus,** Pk.—Common, Plumstead (W.W.).

1328. **Megarthrus sinuatocollis,** Lac.—Common, Lee pit (W.W.).

1330. **Phlœobium clypeatum,** Müll.—Common, Lee pit, Kidbrook (W.W.).

1333. **Prognatha quadricornis,** Kirb.—Common, Blackheath, under bark (W.W.) ; Erith (W.W.F.).

CLAMBIDÆ.

1335. **Calyptomerus dubius,** Marsh.—Common, Kidbrook, under vegetable refuse (W.W.).

1336. **Clambus pubescens,** Redt.—Common, Kidbrook (W.W.).

SILPHIDÆ.

1342. **Agathidium lævigatum,** Er.—Rare on Shooter's Hill (W.W.).

1346. **Agathidium convexum,** Shp.—Rare, Bexley (W.W.F.).

1351. **Liodes humeralis,** Kug.—Not common, Blackheath, Shooter's Hill (W.W.).

1356. **Cyrtusa pauxilla,** Schm.—Forest Hill (W.W.F.).

1365. **Anisotoma ovalis,** Schm.—Forest Hill (W.W.F.).

1368. **Anisotoma punctulata,** Gyll.—Forest Hill (W.W.F.).

1374. **Anisotoma lunicollis,** Rye.—Forest Hill (W.W.F.).

1375. **Anisotoma triepkei,** Schm.—Rare, Forest Hill (Dr. Power).

1386. **Hydnobius strigosus,** Schm.—Rare, Forest Hill (W.W.F.).

1388. **Necrophorus humator,** Goez.—Common throughout district (W.W.).

1389. **Necrophorus mortuorum,** F.—Not common, Lee (W.W.).

1392. **Necrophorus interruptus,** Steph.—Lewisham, on the wing (W.W.).

1393. **Necrophorus vespillo,** L.—Greenwich, banks of the Thames (W.W.).

1402. **Silpha rugosa,** L.—Common, Blackheath, Plumstead (W.W.).

1403. **Silpha sinuata,** F.—Common, Blackheath, Lee (W.W.).

1405. **Silpha lævigata,** F.—Not common, Greenwich (W.W.).

1406. **Silpha atrata,** L.—Common, Blackheath (W.W.).

1411. **Choleva agilis,** Ill.—Not common, Lee (W.W.).

1412. **Choleva velox,** Spence.—Common, Lee pit (W.W.).

1413. **Choleva wilkini,** Spence.—Not common, Lee pit (W.W.).

1414. **Choleva anisotomoides,** Spence.—Common, Shooter's Hill, under leaves (W.W.).

1415. **Choleva fusca,** Pz.—Common in my cellar, Greenwich (W.W.).

1416. **Choleva nigricans,** Spence.—Common, Lee pit (W.W.).

1419. **Choleva morio,** F.—Common, Lewisham, Lee (W.W.).

1421. **Choleva nigrita,** Er.—Common, Plumstead, Lee (W.W.).

1422. **Choleva tristis,** Pz.—Common, Lee, Brockley (W.W.).

1424. **Choleva chrysomeloides,** Pz.—Common, Lewisham (W.W.).

1425. **Choleva fumata,** Spence.—Rare, Lee pit (W.W.).

1426. **Choleva watsoni,** Spence.—Not common, Lee (W.W.).

1428. **Catops sericeus,** Pz.—Very common, Lewisham, Plumstead (W.W.).

1430. **Colon viennense,** Hbst.—Rare, Lee, Peckham (G.C.C. & Power).

1431. **Colon serripes,** Sahl.—Lee (W.W.F.).

1433. **Colon angulare,** Er.—Rare, Forest Hill (Marsh.); Peckham (Sharp).

1437. **Colon brunneum,** Lat.—Not uncommon evening sweeping, Forest Hill (W.W.F.).

SCYDMÆNIDÆ.

1444. **Neuraphes angulatus,** Müll.—Not uncommon, Lee (W.W.F.).

1447. **Neuraphes sparshalli,** Den.—Rare, Bromley, Lee (W.W.F.).

1449. **Neuraphes longicollis,** Mots.—Erith, Forest Hill (W.W.F.).

1451. **Scydmænus scutellaris,** Müll.—Lee, common (W.W.).

1452. **Scydmænus collaris,** Müll.—Common, Blackheath (W.W.).

1460. **Eumicrus tarsatus,** Müll.—Common, Lee, Erith (W.W.).

1462. **Euthia scydmænoides,** Steph.—Common, Blackheath (W.W.).

1466. **Cephennium thoracicum,** Müll.—Common, Kidbrook (W.W.).

PSELAPHIDÆ.

1470. **Tychus niger,** Pk.—Not common, Lee (W.W.).

1474. **Bythinus bulbifer,** Reich.—Common, Lee (W.W.).

1477. **Bythinus burrelli,** Den.—Rare, Bromley (W.W.F.).

1479. **Bryaxis sanguinea,** L.—Common, Lee pit (W.W.).

1481. **Bryaxis fossulata,** Reich.—Not common, Shooter's Hill (W.W.).

1482. **Bryaxis helferi,** Schm.—Not common, Erith (W.W.).

1485. **Bryaxis juncorum,** Leach.—Not common, Lee pit (W.W.).

1486. **Bryaxis impressa,** Pz.—Not common, Catford, banks of Ravensbourne (W W.).

1488. **Trichonyx sulcicollis,** Reich.—Very rare; under bark of old elm stumps in company with ants, Lee (Douglas & Scott).

1495. **Euplectus signatus,** Reich.—Common, Lewisham, in hotbeds, 1872 (W.W.).

1496. **Euplectus nanus,** Reich.—Not common, Lee pit, under leaves (W.W.).

1497. **Euplectus sanguineus,** Den.—Common, Lee pit (W.W.).

1500. **Euplectus ambiguus,** Reich.—Lee, Eltham, Bromley (W.W.F.).

TRICHOPTERYGIDÆ.

1513. **Trichopteryx thoracica,** Waltl—Rare, Lee (W.W.F.).

1519. **Trichopteryx grandicollis,** Man.—Common, Kidbrook, under vegetable refuse (W.W.).

1520. **Trichopteryx lata,** Mots.—Common, Kidbrook, Plumstead (W.W.).

1527. **Trichopteryx sericans,** Heer.—Local, Lee (W.W.F.).

1547. **Trichopteryx ambigua,** Mat.—Very rare, Peckham under bark of hornbeam (Billups).

1557. **Ptilium spencei,** All.—Locally common, Lee (W.W.F.).

1558. **Ptilium marginatum,** Aub.—Rare, Forest Hill, in rotten leaves (Matthews).

1563. **Ptilium myrmecophilum,** All.—Locally common, Chislehurst in nests of *Formica rufa* (W.W.F.).

1574. **Ptenidium fuscicorne,** Er.—Local, Lee, Eltham (W.W.F.).

CORYLOPHIDÆ.

1594. **Sericoderus lateralis,** Gyll.—Local, Kidbrook, Shooter's Hill (W.W.).

PHALACRIDÆ.

1597. **Phalacrus corruscus,** Pk.—Common, Brockley, Plumstead (W.W.).

1598. **Phalacrus brisouti,** Rye.—Rare, Lewisham (W.W.F.).

1599. **Phalacrus brunnipes,** Bris.—Rare, Lee pit (Rye).

1602. **Olibrus corticalis,** Pz.—Common, Lewisham (W.W.).

1603. **Olibrus æneus,** F.—Common, Lee, Brockley (W.W.).

1604. **Olibrus liquidus,** Er.—Local, Lewisham, Shooter's Hill, in flowers (W.W.).

1608. **Olibrus millefolii,** Payk.—Not common, Lee, on flowers of *Achillea millefolium* (W.W.F.).

1610. **Stilbus testaceus,** Pz.—Common, Lewisham (W.W.).

1612. **Stilbus oblongus,** Er.—Common, Greenwich marshes (W.W.).

COCCINELLIDÆ.

1613. **Subcoccinella 24-punctata,** L.—Common, Plumstead, Brockley (W.W.).

1615. **Hippodamia variegata,** Goez.—Not common, Brockley (W.W.).

1616. **Anisosticta 19-punctata,** L.—Common, Lee pit (W.W.).

1617. **Adalia obliterata.** L.—Common, Bostall Wood (W.W.).

1619. **Adalia bipunctata, L.**—Common, throughout district (W.W.).

1620. **Mysia oblongoguttata,** L.—Not common, Bostall Wood, on pines (W.W.).

1621. **Anatis ocellata,** L.—Local, Bostall Wood, Blackheath, one on fence (W.W.).

1622. **Coccinella 10-punctata**, L.—Common throughout the district (W.W.).

1623. **Coccinella hieroglyphica,** L.—Common, Plumstead Common, sweeping heath (W.W.).

1624. **Coccinella 11-punctata,** L.—Common, throughout district (W.W. & S.A.).

1626. **Coccinella 7-punctata**, L.—Common, throughout district (W.W.).

1629. **Halyzia 14-guttata,** L.—Common, Lewisham, Plumstead (W.W.).

1630. **Halyzia 18-guttata,** L.—Not common, Bostall Wood, on pines (W.W.).

1631. **Halyzia conglobata,** L.—Common, Brockley, Lee, Plumstead, sweeping (W.W.).

1632. **Halyzia 22-punctata,** L.—Common, Lewisham, Plumstead, at roots of grass (W.W.).

1633. **Micraspis 16-punctata,** L.—Common, Lewisham (W.W.).

1638. **Scymnus pygmæus,** Fource.—Common, Lewisham, Kidbrook (W.W.).

1639. **Scymnus frontalis,** F. — Not uncommon, Brockley, Lee, sweeping (W.W.).

1641. **Scymnus suturalis,** Thunb.—Common, Bostall Wood, on pines (W.W.).

1644. **Scymnus hæmorrhoidalis,** Hbst.—Not common, Lee (W.W.).

1645. **Scymnus capitatus,** F.—Not common, Lee (W.W); Forest Hill (W.W.F.).

1647. **Scymnus minimus,** Ross. — Common, Kidbrook (W.W.); Belvedere, Forest Hill (W.W.F.).

1649. **Chilocorus similis,** Ross. — Not common, Lewisham, in bramble blossom (W.W.); Keston (S.A.).

1650. **Chilocorus bipustulatus,** L.—Not common, Bostall Heath, sweeping heath (W.W.); Pett Wood, Chislehurst (S.A.).

1651. **Exochomus 4-pustulatus,** L.—Common, Wickham Lane, Plumstead, on broom (W.W.).

1652. **Rhizobius litura,** F.—Common throughout district (W.W.).

1653. **Coccidula rufa,** Hbst.—Common throughout district (W.W.).

1654. **Coccidula scutellata,** Hbst.—Greenwich Marshes, Lee pit, on reeds (W.W.).

ENDOMYCHIDÆ.

1656. **Mycetæa hirta,** Marsh.—Common, Greenwich, in cellar (W.W.).

1657. **Alexia pilifera,** Müll.—Local, Plumstead, in fungi (W.W.).

1659. **Endomychus coccineus,** L.—Catford, one under willow bark (W.W.).

EROTYLIDÆ.

1660. **Dacne rufifrons,** F.—Not common, Blackheath, in fungoid growth (W.W.).

1662. **Triplax russica,** L.—Not common, Shooter's Hill (W.W.).

1664. **Triplax lacordairei,** Crotch.—Erith (Dr. Power).

COLYDIIDÆ.

1670. **Oxylæmus variolosus,** Duft.—Charlton, 1854 (Mr. Pelerin).

1675. **Cicones variegatus,** Hell.—Rare, Bromley (W.W.F.).

1678. **Cerylon histeroides,** F.—Not common, Shooter's Hill (W.W.).

HISTERIDÆ.

1683. **Hister unicolor,** L. — Common, Blackheath, Plumstead (W.W.).

1684. **Hister merdarius,** Hoff.—Rare, Greenwich, in a dust-bin (W.W.).

1685. **Hister cadaverinus,** Hoff.—Common throughout district (W.W.).

1686. **Hister succicola,** Th.—Eltham (S.A.); West Wood, Welling, in fungus (W.W.).

1687. **Hister purpurascens,** Hbst.—Not common, Lewisham, in hot-beds (W.W.).

1691. **Hister carbonarius,** Ill.—Common, Blackheath, Plumstead (W.W.).

1692. **Hister bissexstriatus,** F.—Blackheath, one in stable refuse (W.W.).

1693. **Hister 12-striatus,** Schr.—Common, Blackheath (W.W.).

1694. **Hister bimaculatus,** L. — Not uncommon, Lewisham, in hot beds (W.W.).

1696. **Kissister minima,** Aub.—Common, Blackheath (W.W.).

1697. **Paromalus flavicornis,** Hbst.—Greenwich Park, in decayed elm (W.W.).

1700. **Dendrophilus punctatus,** Hbst.—Greenwich Park, in decayed elm (W.W.).

1701. **Dendrophilus pygmæus,** L.—Forest Hill, Plumstead (W.W.F.).

1702. **Myrmetes piceus,** Pk. — Local, Plumstead, in nest of *Formica rufa* (W.W.F.).

1703. **Gnathoncus nannetensis,** Mars.—Greenwich Park, in decayed elms (W.W.).

1705. **Saprinus nitidulus,** Pk. — Common, Blackheath (W.W.); Chislehurst (S.A.).

1706. **Saprinus æneus,** F.—Common, Blackheath (W.W.).

1708. **Saprinus virescens,** Pk.—Forest Hill (W.W.F.).

1713. **Teretrius picipes,** F.—Very rare, Forest Hill, Peckham (W.W.F.).

1715. **Abræus globosus,** Hoff.—Abbey Wood (W.W.F.).

1718. **Acritus minutus,** Hbst.—Common, Lee pit (W.W.); Blackheath (J.W.D.).

1721. **Onthophilus striatus,** F.—Common, Kidbrook (W.W.).

MICROPEPLIDÆ.

1723. **Micropeplus staphylinoides,** Marsh.—Not uncommon, Greenwich, Plumstead (W.W.).

1724. **Micropeplus margaritæ,** Duv.—Lee pit (W.W.).

NITIDULIDÆ.

1726. **Brachypterus gravidus,** Ill. — Common, Wickham Lane, Plumstead (W.W.).

1727. **Brachypterus pubescens,** Er. — Common, Lewisham, on nettles (W.W.).

1728. **Brachypterus urticæ,** F.—Common, Lewisham (W.W.).

1730. **Cercus bipustulatus,** Pk. — Not uncommon, Lewisham (W.W.).

1731. **Cercus rufilabris,** Lat.—Common, Lee, Greenwich Marshes (W.W.).

1732. **Carpophilus hemipterus,** L.—Lewisham, in figs (W.W.)

1735. **Epuræa æstiva,** L. — Common, Lewisham, Lee, on the bloom of hawthorn (W.W.).

1741. **Epuræa florea,** Er. — Not uncommon, Shooter's Hill (W.W.).

1745. **Epuræa obsoleta,** F.—Not common, Plumstead, in fungus (W.W.).

1748. **Epuræa pusilla,** Ill.—Not common, Shooter's Hill, under bark (W.W.).

1751. **Micrurula melanocephala,** Marsh. — Common, Lewisham, under leaves (W.W.); St. Mary Cray (W.W.F.).

1752. **Nitidula bipustulata,** L.—Common, Blackheath, under dead animals (W.W.).

1753. **Nitidula 4 pustulata,** F.—Blackheath, two taken under dead animals (W.W.).

1754. **Nitidula rufipes,** L.—Belvedere, one taken on the river-bank (W.W.).

1756. **Soronia grisea,** L.—Common, Shooter's Hill, under bark of willows (W.W.).

1759. **Omosita colon,** L.—Common, Blackheath (W.W.).

1760. **Omosita discoidea,** F.—Common, Blackheath (W.W.).

1761. **Thalycra sericea,** Stm.—Bromley, evening sweeping (W.W.F.).

1763. **Pria dulcamaræ,** Scop.—Not common. Kidbrook (W.W.); Eltham (S.A.).

1764. **Meligethes rufipes,** Gyll — Common in hawthorn bloom (W.W.).

1765. **Meligethes lumbaris,** Stm. — Common throughout district (W.W.).

1770. **Meligethes æneus,** F.—Common throughout district (W.W.).

1787. **Meligethes picipes,** Stm.—Common throughout district (W.W.).

1787. **Meligethes symphyti,** Heer.—Rare, St. Mary Cray (G.C.C.).

1799. **Cychramus luteus,** F.—Common, Lewisham, Shooter's Hill (W.W.).

1800. **Cychramus fungicola,** Heer. — Common, Abbey Wood (W.W.).

1801. **Cryptarcha strigata,** F.—Belvedere (W.W.F.).

1810. **Rhizophagus parallelocollis,** Gyll.—Not common, Greenwich Park, under bark of oak (W.W.).

1811. **Rhizophagus ferrugineus,** Pk.—Greenwich Park (W.W.).

1815. **Rhizophagus bipustulatus,** F. — Greenwich Park, Shooter's Hill (W.W.).

1816. **Rhizophagus politus,** Hell.—Very rare, Lee, one specimen by sweeping (Douglas).

TROGOSITIDÆ.

1819. **Tenebrioides mauritanicus,** L. — Common, Plumstead, in meal (W.W.); Dartford flour mills (E. C. Rye).

1820. **Thymalus limbatus,** F.—Lee, one by sweeping in meadows (W.W.).

MONOTOMIDÆ.

1821. **Monotoma conicicollis,** Aub.—Plumstead, in nests of *Formica rufa* (W.W.F.).

1822. **Monotoma formicetorum,** Th.—Local, Plumstead, in company with the preceding (W.W.F.).

1823. **Monotoma spinicollis,** Aub.—Greenwich, in hotbeds (W.W.); Peckham (W.W.F.).

1824. **Monotoma brevicollis,** Aub.—Forest Hill (W.W.F.).

1825. **Monotoma picipes,** Hbst.—Common, Lee, in refuse (W.W.).

1826. **Monotoma quadricollis,** Aub. — Not common, Lewisham (W.W.).

1827. **Monotoma rufa,** Redt.—Common, Lee, in haystack refuse (W.W.); Eltham (W.W.F.).

1828. **Monotoma 4-foveolata,** Wat.—Rare, Lee (W.W.).

LATHRIDIIDÆ.

1833. **Lathridius lardarius,** De G. — Common, Plumstead, Lee (W.W.).

1834. **Lathridius angulatus,** Man. — Not uncommon, Shooter's Hill, Plumstead (W.W.).

1835. **Lathridius bergrothi,** Reit. — Common, Greenwich, in my cellar by shaking a piece of mat that I keep as a trap, 1904 (W.W.).

1836. **Coninomus nodifer,** West. — Common throughout district (W.W.).

1839. **Enicmus minutus,** L.—Common throughout district (W.W.).

1840. **Enicmus transversus,** Ol.—Common, Lewisham (W.W.).

1842. **Enicmus testaceus,** Steph.—Not common, Shooter's Hill (W.W.).

1844. **Cartodere ruficollis,** Marsh.—Common, Lewisham, in hay-stack refuse (W.W.).

1845. **Cartodere elongata,** Curt.—Not common, Lewisham (W.W.).

1848. **Corticaria pubescens,** Gyll.—Common, Lewisham (W.W.).

1849. **Corticaria denticulata,** Gyll.—Common, Lewisham (W.W.).

1851. **Corticaria serrata,** Pk.—Forest Hill, Peckham (W.W.F.).

1852. **Corticaria umbilicata,** Beck.—Shooter's Hill, under leaves (W.W.).

1853. **Corticaria fulva,** Com.—Common, Shooter's Hill, Greenwich, in my cellar (W.W.).

1855. **Corticaria elongata,** Gyll.—Common, Shooter's Hill, Lewisham (W.W.).

1857. **Melanophthalma gibbosa,** Hbst.—Common, Lee, Plumstead (W.W.).

1859. **Melanophthalma fuscula,** Hum.—Common, Lee, Lewisham (W.W.).

CUCUJIDÆ.

1864. **Læmophlœus bimaculatus,** Pk. — Very rare, Bromley (W.W.F.).

1867. **Læmophlœus ferrugineus,** Steph.—Common, Greenwich, in corn (W.W.).

1871. **Brontes planatus,** L.—Very rare, Blackheath (Douglas).

1872. **Psammœchus bipunctatus,** F.—Common, Lee pit (W.W.).

8875. **Silvanus surinamensis,** L. — Lewisham, one taken from Normandy pippins (W.W.).

8876. **Silvanus unidentatus,** Ol.—Lee, under bark of elm (W.W.).

BYTURIDÆ.

1881. **Byturus tomentosus,** F.—Common, Lewisham, Plumstead (W.W.).

CRYPTOPHAGIDÆ.

1885. **Telmatophilus caricis,** Ol.—Common, Greenwich marshes (W.W.).

1889. **Antherophagus nigricornis,** F.—Common, Lee, Eltham, in flowers (W.W.).

1890. **Antherophagus pallens,** Ol. — Local, Lee, Forest Hill (W.W.F.).

1892. **Cryptophagus lycoperdi,** Hbst.—Common, Lewisham (W.W.) ; Pett Wood, Chislehurst (S.A.).

1895. **Cryptophagus pilosus,** Gyll.—Greenwich Park (W.W.).

1896. **Cryptophagus punctipennis,** Bris.—Forest Hill (W.W.F.).

1898. **Cryptophagus populi,** Pk.—Not common, Lee pit (W.W.).

1899. **Cryptophagus saginatus,** Stm.—Lewisham (W.W.).

1900. **Cryptophagus umbratus,** Er.—Rare, Plumstead (W.W.F.).

1901. **Cryptophagus scanicus,** L. — Common, Kidbrook, under vegetable refuse (W.W.).

1902. **Cryptophagus badius,** Stm.—Not common, Plumstead (W.W.).

1904. **Cryptophagus dentatus,** Hbst.—Plumstead Marshes (W.W.).

1906. **Cryptophagus distinguendus,** Stm.—Common, Greenwich, in my own cellar (W.W.).

1907. **Cryptophagus acutangulus,** Gyll.—Common, Lee pit (W.W.).

1909. **Cryptophagus cellaris,** Scop.—Common, Greenwich, in my own cellar (W.W.).

1910. **Cryptophagus affinis,** Stm. — Not common, Blackheath (W.W.).

1912. **Cryptophagus bicolor,** Stm. — Common, Greenwich, in my own cellar (W.W.).

1913. **Micrambe vini,** Pz.—Common, Blackheath, on furze bushes (W.W.).

1915. **Henoticus serratus,** Gyll.—Very rare, Forest Hill, one example found crawling on a wall by Mr. Marsh (W.W.F.).

1921. **Atomaria barani,** Bris.—Eltham (Sharp); Lee (G.C.C.).

1922. **Atomaria nigriventris,** Steph.—Common, Lee pit (W.W.).

1925. **Atomaria linearis,** Steph.—Common, Lee pit (W.W.).

1928. **Atomaria badia,** Er.—Not common, Lee pit (W.W.).

1930. **Atomaria peltata,** Kr.—Rare, Forest Hill (W.W.F.).

1931. **Atomaria nigripennis,** Pk.—Rare, Forest Hill (W.W.F.).

1933. **Atomaria munda,** Er.—Lee, Plumstead (W.W.) ; Forest Hill (W.W.F.).

1934. **Atomaria impressa,** Er.—Lee, one specimen (Sharp).

1935. **Atomaria fuscata,** Sch.—Rather common, Lee, Shooter's Hill (W.W.).

1937. **Atomaria pusilla,** Pk.—Common, Lee, Plumstead (W.W.).

1938. **Atomaria atricapilla,** Steph. — Common, Lewisham. Kidbrook (W.W.).

1939. **Atomaria berolinensis,** Kr.—Local, Lee (W.W.F.).

1942. **Atomaria mesomelas,** Hbst.—Very common, Lee pit (W.W.) ; Eltham (W.W.F.).

1945. **Atomaria apicalis,** Er.—Common, Lee, Kidbrook (W.W.).

1946. **Atomaria analis,** Er.—Not common, Lee (W.W.).

1947. **Atomaria ruficornis,** Marsh.— Common, Lee, Kidbrook, Brockley (W.W.).

1948. **Atomaria versicolor,** Er.—Shooter's Hill (W.W.F.).

1950. **Ephistemus gyrinoides,** Marsh.—Common throughout district (W.W.).

SCAPHIDIIDÆ.

1951. **Scaphidium 4-maculatum,** Ol.—West Wood, Welling (W.W.).

1952. **Scaphisoma agaricinum,** L.—Common, Lewisham, Plumstead (W.W.).

MYCETOPHAGIDÆ.

1954. **Typhæa fumata,** L.—Common, Lewisham, in stack refuse (W.W.).

1956. **Triphyllus punctatus,** F.—Shooter's Hill, in fungi (W.W.).

1957. **Litargus bifasciatus,** F.—Brockley, beating broom (W.W.).

1958. **Mycetophagus 4 pustulatus,** L.—Common, Shooter's Hill, under bark of willows (W.W.).

1959. **Mycetophagus piceus,** F.—Burnt Ash Lane, Lee, in fungus (W.W.).

1963. **Mycetophagus multipunctatus,** Hell. — Greenwich Park (W.W.) ; Lee Common 1860 (J.S.).

DERMESTIDÆ.

1965. **Dermestes vulpinus,** F. — Common, Brockley, Blackheath (W.W.).

1966. **Dermestes frischi,** Kug.—Greenwich, one under a dead animal on river-bank (W.W.).

1969. **Dermestes lardarius,** L.—Greenwich, in the house (W.W.).

1970. **Attagenus pellio,** L.—Greenwich, in the house on windows (W.W.).

1972. **Tiresias serra,** F.—Greenwich Park, bred from larvæ taken under elm bark (W.W.).

1973. **Anthrenus varius,** F.—Lee, sweeping flowers (W.W.).

1974. **Florilinus musæorum,** L.—Greenwich, in the house (not in cabinet) (W.W.).

BYRRHIDÆ.

1980. **Byrrhus pilula,** L.—Greenwich Park, under leaves (W.W.).

1982. **Byrrhus dorsalis,** F.—Plumstead (W.W.F.).

1983. **Byrrhus murinus,** F.—Plumstead (W.W.F.).

1984. **Cytilus varius,** F.—Lee pit, Brockley, Plumstead (W.W.).

1986. **Simplocaria semistriata,** F. — Common, Lee, Lewisham, sweeping (W.W.).

PARNIDÆ.

1990. **Elmis æneus,** Müll.—Common Lee, pit, Lewisham (W.W.).

2001. **Parnus prolifericornis,** F. — Common, Lewisham, Lee (W.W.).

2002. **Parnus auriculatus,** Pz.—Brockley, in brick-fields (W.W.).

HETEROCERIDÆ.

2008. **Heterocerus marginatus,** F.—Lee (W.W.F.).

2009. **Heterocerus lævigatus,** Pz.—Not common, Lee (W.W.).

2011. **Heterocerus obsoletus,** Curt.—Plumstead, Erith (W.W.).

LUCANIDÆ.

2014. **Lucanus cervus,** L.—Very common, Blackheath to 1890. It is fast disappearing owing to the process of pickling the posts that replace the old ones (W.W.); Eltham (S.A.).

2015. **Dorcus parallelopipedus,** L.—Common, Blackheath, Lewisham, on fencing and in rotten wood (W.W.) ; Bickley (S.A.).

2016. **Sinodendron cylindricum,** L.—Common, Catford, in decayed willows (W.W.).

SCARABÆIDÆ.

2017. **Copris lunaris,** L.—Kidbrook, one on the wing (W.W.) ; Charlton, 1860 (Ent. Wk. Int.).

2019. **Onthophagus ovatus,** L.—Not common, Blackheath (W.W.).

2020. **Onthophagus cœnobita,** Hbst. — Common, Lee, Plumstead (W.W.).

2021. **Onthophagus vacca,** L. — Local, Kidbrook, Plumstead (W.W.).

2022. **Onthophagus fracticornis,** Preys.—Local, Plumstead (W.W.).

2023. **Onthophagus nuchicornis,** L. — Blackheath, Plumstead (W.W.).

2024. **Aphodius erraticus,** L. — Common, Blackheath, Plumstead (W.W.).

2025. **Aphodius subterraneus,** L. — Not common, Blackheath (W.W.).

2026. **Aphodius fossor,** L.—Blackheath, Kidbrook (W.W.).

2027. **Aphodius hæmorrhoidalis,** L.—Local, Plumstead, Kidbrook (W.W.).

2029. **Aphodius fimetarius,** L.—Common throughout district (W.W.).

2030. **Aphodius scybalarius,** F.—Common, Blackheath, Kidbrook (W.W.).

2031. **Aphodius ater,** De G.—Common, Blackheath (W.W.).

2033. **Aphodius granarius,** L.— Common, Blackheath, Kidbrook (W.W.).

2034. **Aphodius nitidulus,** F. — Local, Blackheath, Plumstead (W.W.).

2035. **Aphodius sordidus,** F.—Not common, Plumstead, Catford (W.W.) ; Belvedere (W.W.F.).

2036. **Aphodius rufescens,** F. — Local, Kidbrook, Blackheath (W.W.) ; Belvedere (W.W.F.) ; Charlton, 1860 (Solomon).

2043. **Aphodius lividus,** Ol. — Very local, Burnt Ash Lane, in hotbeds (W.W.).

2046. **Aphodius tristis,** Pz.—Local, Plumstead (W.W.).

2047. **Aphodius pusillus,** Hbst.—Common, Blackheath, Plumstead (W.W.).

2049. **Aphodius merdarius,** F.—Common, Plumstead, Lewisham (W.W.).

2055. **Aphodius punctato-sulcatus,** Stm.—Common throughout district (W.W.).

2056. **Aphodius prodromus,** Brahm.—Common, Plumstead (W.W.).

2057. **Aphodius contaminatus,** Hbst.—Common throughout district (W.W.).

2060. **Aphodius luridus,** F.—Not common, Plumstead (W.W.).

2061. **Aphodius rufipes,** L.—Common, Kidbrook, Lee (W.W.).

2062. **Aphodius depressus,** Kug.—Abbey Wood (W.W.).

2067. **Oxyomus porcatus,** F.—Common, Lewisham, Kidbrook, in hotbeds (W.W.).

2075. **Odontæus mobilicornis,** F.—Charlton, Lady Maryon Wilson, one specimen taken in the year 1795 (*teste* W.W.F.).

2076. **Geotrupes typhœus,** L.—Common, Greenwich Park, under deer's dung (W.W.).

2077. **Geotrupes spiniger,** Marsh.—Common, Blackheath, Plumstead (W.W.).

2078. **Geotrupes stercorarius,** L.—Common, Blackheath (W.W.).

2079. **Geotrupes mutator,** Marsh.—Common, Lee, Blackheath (W.W.).

2080. **Geotrupes sylvaticus,** Panz.—Common, Plumstead, Blackheath (W.W.).

2081. **Geotrupes vernalis,** L.—Local, Plumstead (W.W.).

2082. **Geotrupes pyrenæus,** Charp.—Belvedere (W.W.F.).

2084. **Trox scaber,** L.—Common, Blackheath, Brockley, under dead animals (W.W.).

2085. **Hoplia philanthus,** Füss.—Common, Lewisham, sweeping (W.W.).

2037. **Serica brunnea,** L.—Lee, beating hedges (W.W.).

2088. **Rhizotrogus solstitialis,** L.—Common, Blackheath, on the wing during warm summer evenings (W.W.).

2090. **Melolontha vulgaris,** F.—Common throughout district (W.W.).

2092. **Phyllopertha horticola,** L.—Common, Lewisham, Lee, sweeping meadows (W.W.).

2094. **Cetonia aurata,** L.—Common, Lewisham, on flowers (W.W.).

2096. **Gnorimus variabilis,** L.—Lee (J.S.).

BUPRESTIDÆ.

2102. **Agrilus laticornis,** Ill.—Rare, West Wood, Welling (W.W.).

2103. **Agrilus angustulus,** Ill. — Not common, Shooter's Hill, Abbey Wood (W.W.).

EUCNEMIDÆ.

2109. **Throscus dermestoides,** L. — Common, Lee pit, Lewisham (W.W.).

2112. **Throscus obtusus,** Curt.—Not common, Lee pit (W.W.).

ELATERIDÆ.

2116. **Lacon murinus,** L. — Common, Lewisham, Shooter's Hill (W.W.).

2123. **Cryptohypnus 4 pustulatus,** F.—Lee, Lewisham, sweeping meadows (W.W.).

2132. **Elater balteatus,** L.—Not common, Shooter's Hill (W.W.).

2136. **Ischnodes sanguinicollis,** Pz.—Greenwich Park, in a rotten elm, 70 taken from the one tree, 1876 (W.W.).

2141. **Melanotus rufipes,** Hbst.—Shooter's Hill, Lewisham, on the wing (W.W.).

2144. **Athous niger,** L.—Common, Abbey Wood (W.W.).

2146. **Athous longicollis,** Ol.—male common, female rare, Plumstead, Lewisham (W.W.).

2148. **Athous hæmorrhoidalis,** F. — Common throughout district (W.W.).

2149. **Athous vittatus,** F.—Not common, Shooter's Hill, Lewisham (W.W.)

2152. **Limonius minutus,** L. — Not common, Lee, beating elms (W.W.); Bromley (Sauzé).

2155. **Adrastus limbatus,** F. — Common, Lewisham, Plumstead (W.W.).

2157. **Agriotes sputator,** L.—Common, Lee, Lewisham (W.W.); Eltham (S.A.).

2158. **Agriotes obscurus,** L.—Common, Lee pit (W.W.); Eltham (S.A.).

2159. **Agriotes lineatus,** L. — Not uncommon, Lee, Kidbrook (W.W.).

2162. **Agriotes pallidulus,** Ill. — Common, Lewisham, Plumstead (W.W.).

2163. **Dolopius marginatus,** L. — Common, Brockley, Plumstead, Lee (W.W.).

2168. **Corymbites quercûs,** Gyll.—Belvedere (W.W.F.).

2169. **Corymbites holosericeus,** F.—Common, Shooter's Hill, Abbey Wood, Lee (W.W.).

2172. **Corymbites æneus,** L.—Belvedere (W.W.F.).

2174. **Campylus linearis,** L.—Lewisham, Kidbrook (W.W.).

DASCILLIDÆ.

2175 **Dascillus cervinus,** L.—Not common, Plumstead (W.W.).

2176. **Helodes minuta,** L.—Common, Lee pit (W.W.).

2178. **Microcara livida,** F.—Common, Lee pit, Plumstead (W.W.).

2180. **Cyphon nitidulus,** Th.—Common, Lee, Kidbrook (W.W.).

2182. **Cyphon pallidulus,** Boh. — Common, Lee pit, Lewisham (W.W.).

2183. **Cyphon padi,** L.—Not common, Abbey Wood (W.W.).

LAMPYRIDÆ.

2192. **Lampyris noctiluca,** L. — Common, Blackheath, Kidbrook, Lewisham, male ; Plumstead, male and female (W.W.).

TELEPHORIDÆ.

2195. **Podabrus alpinus,** Pk.—Not common, Abbey Wood (W.W.).

2197. **Telephorus fuscus,** L.—Catford, one on the banks of the Ravensbourne, 1903(W.W.).

2198. **Telephorus rusticus,** Fall. — Common throughout district (W.W.).

2179. **Telephorus lividus,** L. — Common, Lewisham, Plumstead (W.W.).

2200 **Telephorus pellucidus,** F.—Common. Lewisham (W.W.).

2201. **Telephorus nigricans,** Müll.—Common. Kidbrook, Lewisham, on flowers (W.W.).

2203. **Telephorus lituratus,** Fall.—Common, Lewisham (W.W.).

2206. **Telephorus bicolor,** F. — Common, Lewisham, on flowers (W.W.).

2207. **Telephorus hæmorrhoidalis,** F.—Local, Lewisham, Kidbrook (W.W.).

2208. **Telephorus oralis,** Germ.—Local, Kidbrook, sweeping grass (W.W.).

2210. **Telephorus flavilabris,** Fall.—Common, Lewisham, Plumstead, sweeping flowers (W.W.).

2213. **Rhagonycha fuscicornis,** Ol. — Not uncommon, Lewisham (W W.).

2214. **Rhagonycha fulva,** Scop. — Common throughout district (W.W.).

2216. **Rhagonycha limbata,** Th. — Common throughout district (W.W.).

2217. **Rhagonycha pallida,** F. — Common, Shooter's Hill, Abbey Wood (W.W.).

2219. **Malthinus punctatus,** Fourc.—Not uncommon, Lee, Lewisham (W.W.).

2220. **Malthinus fasciatus,** Ol.—Local, Shooter's Hill (W.W.).

2221. **Malthinus balteatus,** Suf.—Not common, Lee (W.W.).

2223. **Malthodes marginatus,** Lat. — Common, Lee, Lewisham (W.W.).

2227. **Malthodes dispar,** Germ.—Shooter's Hill (W.W.).

2229. **Malthodes minimus,** L.—Common throughout district (W.W.).

2233. **Malthodes atomus,** Th.—Local, Brockley (W.W.).

2234. **Malachius æneus,** L.—Local, Lewisham (W.W.).

2235. **Malachius bipustulatus,** L. — Common throughout district (W.W.).

2236. **Malachius viridis,** L.—Local, Lewisham, Plumstead (W.W.) ; Beckenham (Sauzé).

2238. **Axinotarsus pulicarius,** F.—Local, Lee (W.W.); Charlton, in some numbers (Lewis).

2239. **Axinotarsus ruficollis,** Ol.—Local, Erith (W.W.F.).

2241. **Anthocomus fasciatus,** L.—Lee pit, sweeping (W.W.).

2244. **Dasytes ærosus,** Kies.—Plumstead, Brockley (W.W.).

CLERIDÆ.

2253. **Opilo mollis,** L.—Burnt Ash Lane, Lee, in an old oak stump (W.W.).

2255. **Necrobia ruficollis,** F.—Common, Greenwich Marsh, in dead animals (W.W.).

2256. **Necrobia violacea,** L.—Rare, Greenwich Marshes (W.W.).

2257. **Necrobia rufipes,** De. G.—Greenwich, amongst bones (W.W.).

DRILIDÆ.

2259. **Drilus flavescens,** Ross.—Plumstead (W.W.).

PTINIDÆ.

2263. **Ptinus sexpunctatus,** Pz.—Blackheath (W.W.F.).

2265. **Ptinus fur,** L .—Greenwich, in the house (W.W.).

2268. **Niptus hololeucus,** Fall.—Greenwich, in the house (W.W.).

2271. **Hedobia imperialis,** L. — Rare, Grove Park, Lee, beating hedges (W.W.).

ANOBIIDÆ.

2275. **Dryophilus anobioides,** Chev.—Very rare, Plumstead, bred from old broom stumps (S. Stevens).

2276. **Priobium castaneum,** F.—Common, Lee, in dead hedges (W.W.).

2277. **Anobium denticolle,** Ponz.—Erith, on old fence (S. Stevens).

2278. **Anobium domesticum,** Fourc. — Greenwich, in the house (W.W.).

2279. **Anobium fulvicorne,** Sturm.—Common, Lee, beating hedges (W.W.).

2280. **Anobium paniceum,** L.—Greenwich (W.W.).

2282. **Ernobius mollis,** L.—Common, Lewisham, in old hedges (W.W.).

2285. **Ptilinus pectinicornis,** L.—Brockley, in an old oak (W.W.).

2286. **Ochina hederæ,** Müll.—Blackheath, 1902 (W.W.).

2287. **Xyletinus ater,** Pz.—Charlton (Janson).

LYCTIDÆ.

2294. **Lyctus canaliculatus,** F. — Common, Blackheath, on fences (W.W.).

2295. **Lyctus brunneus,** Steph.—Blackheath, under furze bushes, 1905 (W.W.).

CISSIDÆ.

2297. **Cis boleti,** Scop. — Common, Lewisham, Kidbrook, Plumstead (W.W.).

2298. **Cis villosulus,** Marsh.—Lewisham, Plumstead (W.W.).

2299. **Cis micans,** Hbst.—Greenwich Park (W.W.).

2300. **Cis hispidus,** Pk.—Greenwich Park (W.W.).

2301. **Cis bidentatus,** Ol.—Greenwich Park (W.W.).

2308. **Cis pygmæus,** Marsh.—Plumstead (W.W.).

2309. **Cis festivus,** Pz.—Plumstead (W.W.).

2310. **Cis vestitus,** Mel.—Rare, Plumstead (W.W.).

2315. **Ennearthron affine,** Gyll. — Locally common, Plumstead (W.W.).

2316. **Ennearthron cornutum,** Gyll. — Not common, Plumstead (W.W.).

2317. **Octotemnus glabriculus,** Gyll.—Common, Blackheath (W.W.).

PRIONIDÆ.

2318. **Prionus coriarius,** L.—Belvedere (W.W.F.).

CERAMBYCIDÆ.

2319. **Aromia moschata,** L.—Common, Catford, Greenwich Marshes, Plumstead, on willows (W.W.); Lee, swarming, 1860 (J.S.).

2323. **Hylotrupes bajulus,** L. — Lewisham, on a telegraph post (W.W.).

2325. **Callidium variabile,** L.—Blackheath, Lee, Plumstead (W.W.).

2326. **Callidium alni,** L.—Blackheath, Lee, on flowers (W.W.).

2327. **Clytus arcuatus,** L.—Greenwich, at a clog-maker's shop, from hornbeam (W.W.).

2328. **Clytus arietus,** L.—Common, Lewisham, on flowers (W.W.); Catford (H.J.T.).

2329. **Clytus mysticus,** L.—Kidbrook, beating hedges (W.W.).

2330. **Gracilia minuta,** F.—Greenwich, bred from an old osier basket (W.W.).

2337. **Rhagium bifasciatum,** F.—Lewisham, on hawthorn bloom (W.W.).

2338. **Toxotus meridianus,** L.—West Wood, Welling, 1876 (W.W.).

2341. **Pachyta collaris,** L.—Shooter's Hill, Bexley (W.W.F.).

2346. **Leptura livida,** F.—Common, Lewisham, Lee, Plumstead, on flowers (W.W.).

2351. **Strangalia melanura,** L. — Common, Lewisham, Shooter's Hill (W.W.).

2352. **Grammoptera tabacicolor,** De G.—Common, Lewisham, Abbey Wood, on flowers (W.W.).

2353. **Grammoptera analis,** Pz.—Belvedere (Wood).

2354. **Grammoptera ruficornis,** F.—Lewisham, Shooter's Hill, on hawthorn bloom (W.W.).

LAMIIDÆ.

2356. **Acanthocinus ædilis,** L.—Greenwich, one on the wing in an open road (W.W.).

2357. **Leiopus nebulosus,** L. — Blackheath, Lee, Catford, beating (W.W.).

2359. **Pogonochærus bidentatus,** Th.—Kidbrook, Burnt Ash Lane, Lee, beating hedges (W.W.).

2360. **Pogonochærus dentatus,** Fourc.—Lee, beating ivy (W.W.).

2366. **Saperda populnea,** L.—Wickham Lane, Plumstead, on aspens (W.W.).

2367. **Tetrops præusta,** L.—Shooter's Hill (W.W.).

BRUCHIDÆ.

2375. **Bruchus pisi,** L.—Common, Greenwich, in fowls' food (W.W.).

2376. **Bruchus rufimanus,** Boh.—Greenwich, in fowls' food (W.W.).

2381. **Bruchus loti,** Pk.—Common, Lee, Shooter's Hill, Plumstead, sweeping (W.W.).

CHRYSOMELIDÆ.

2387. **Donacia versicolora,** Brahm. — Not uncommon, Lee, on aquatic plants (W.W.).

2388. **Donacia sparganii,** Ahr.—Charlton (W.W.F.).

2390. **Donacia limbata,** Pz.—Lee, on aquatic plants (W.W.).

2395. **Donacia simplex,** F.—Lee, Plumstead (W.W.).

2396. **Donacia vulgaris,** Zsch.—Lewisham, Lee (W.W.).

2399. **Donacia cinerea,** Hbst.—Woolwich (W.W.F.).

2400. **Donacia sericea,** L.—Lewisham, on aquatic plants (W.W.).

2401. **Donacia discolor,** Pz.—Lewisham (W.W.F.).

2402. **Donacia braccata,** Scop.—Greenwich, Woolwich (W.W.F.).

2403. **Donacia affinis,** Kunz.—Greenwich (W.W.F.).

2406. **Zeugophora subspinosa,** F.—Common, Brockley, Lee, on sallows (W.W.); Chislehurst (S.A.).

2407. **Zeugophora flavicollis,** Marsh.—Rare, Bexley (W.W.F.).

2410. **Lema lichenis,** Voet. — Common, Lewisham, Plumstead (W.W.).

2413. **Lema melanopa,** L.—Lee pit (W.W.).

2415. **Crioceris asparagi,** L.—Blackheath, on asparagus (W.W.).

2417. **Clythra quadripunctata,** L.—Lee (W.W.F.).

2427. **Cryptocephalus punctiger,** Pk.—Rare, Lee (W.W.).

2430. **Cryptocephalus moræi,** L.—Wickham Lane, Welling, sweeping flowers (W.W.).

2432. **Cryptocephalus fulvus,** Goeze.—Brockley, Kidbrook, Plumstead, sweeping (W.W.).

2433. **Cryptocephalus pusillus,** F.—Shooter's Hill, beating birch (W.W.).

2434. **Cryptocephalus labiatus,** L.—Shooter's Hill, Abbey Wood (W.W.).

2438. **Lamprosoma concolor,** Stm.—Lee (W.W.F.).

2439. **Timarcha tenebricosa,** F.—Common, Blackheath, Plumstead (W.W.).

2440. **Timarcha violaceo-nigra,** De G.—Very common, Blackheath, 1869 (W.W.)

2442. **Chrysomela marginalis,** Duft.—Wickham Lane, Welling, on the toad-flax (W.W.).

2444. **Chrysomela banksi,** F.—Plumstead, by the roadside to Bostall Heath (W.W.).

2446. **Chrysomela polita,** L.—Common, Kidbrook, Brockley (W.W.).

2447. **Chrysomela orichalcia,** Müll.—Plumstead (W.W.); Belvedere (W.W.F.).

2450. **Chrysomela goettingensis,** L.—Not common, Chislehurst, Belvedere, Bromley (W.W.F.).

2456. **Chrysomela hyperici,** Först.—Common, Plumstead, on *Hypericum* (W.W.).

2458. **Melasoma populi,** L.—Plumstead, on aspens (W.W.).

2459. **Melasoma tremulæ,** F.—Plumstead, on aspens (W.W.).

2462. **Phytodecta olivacea,** Först.—Plumstead, Brockley, on broom (W.W.).

2465. **Gastroidea polygoni,** L.—Common throughout district on *Polygonum aviculare* (W.W.).

2467. **Phædon tumidulus,** Germ.—Common, Brockley (W.W.).

2468. **Phædon armoraciæ,** L.—Greenwich (W.W.).

2469. **Phædon cochleariæ,** F.—Lewisham, Lee (W.W.).

2471. **Phyllodecta vulgatissima,** L.—Burnt Ash Lane, Lee, on sallows (W.W.).

2472. **Phyllodecta cavifrons,** Th.—Not common. Shooter's Hill, on aspens (W.W.).

2473. **Phyllodecta vitellinæ,** L.—Lewisham, on willows (W.W.); Burnt Ash Lane, abundant, 1856 (Newman).

2474. **Hydrothassa aucta,** F.—Lee, Lewisham, sweeping (W.W.).

2475. **Hydrothassa marginella,** L.—Kidbrook, sweeping (W.W.).

2477. **Prasocuris junci,** Brahm.—Not common, Catford, on water-plants (W.W.).

2478. **Prasocuris phellandrii,** L.—Common, Lee pit (W.W.).

2479. **Phyllobrotica 4 maculata,** L.—Catford, on alders (W.W.).

2481. **Luperus rufipes,** Scop.—Lewisham, on willows (W.W.).

2485. **Lochmæacratægi,** Forst.—Shooter's Hill, on hawthorn blossom (W.W.).

2486. **Galerucella viburni,** Pk.—Not common, Lewisham, sweeping flowers (W.W.).

2487. **Galerucella nymphææ,** L.—Lee pit (W.W.).

2492. **Adimonia tanaceti,** L.—Brockley, sweeping railway-banks (W.W.).

2494. **Sermyla halensis,** L.—Common throughout district, on *Galium* (W.W.).

2504. **Longitarsus luridus,** Scop.—Common, Lee, Plumstead (W.W.).

2505. **Longitarsus brunneus,** Duft.—Common, Lewisham (W.W.).

2508. **Longitarsus suturellus,** Duft. var. **fuscicollis,** Steph.—Common, Brockley (W.W.).

2509. **Longitarsus atricillus,** L.—Common, Brockley, Lee (W.W.).

2511. **Longitarsus melanocephalus,** De G.—Common, Lee, sweeping herbage (W.W.).

2515. **Longitarsus nasturtii,** F.—Lee (W.W.F.).

2516. **Longitarsus piciceps,** Steph.—Common, Lee, on *Senecio jacobæa* (W.W.).

2526. **Longitarsus pusillus,** Gyll.—Plumstead, common, Lee (W.W.).

2530. **Longitarsus jacobææ,** Wat.—Lee, Lewisham, Plumstead, on *Senecio jacobæa* (W.W.).

2539. **Haltica coryli,** Al.—Not common, Catford, under bark (W.W.)

2542. **Haltica pusilla,** Duft.—Not common, Plumstead (W.W.).

2544. **Phyllotreta nodicornis,** Marsh.—Shooter's Hill (W.W.).

2545. **Phyllotreta nigripes,** F.—Not common, Lee pit (W.W.).

2546. **Phyllotreta consobrina,** Curt.—Lee pit (W.W.).

2548. **Phyllotreta atra,** Pk.—Common, Lee pit (W.W.).

2549. **Phyllotreta cruciferæ,** Gœz.—Common, Lewisham (W.W.).

2550. **Phyllotreta vittula,** Redt.—Common, Lewisham (W.W.).

2551. **Phyllotreta undulata,** Kuts.—Common, Lee, (W.W.); Chislehurst (S.A.).

2552. **Phyllotreta nemorum,** L.—Not common, Lewisham, Brockley (W.W.).

2554. **Phyllotreta ochripes,** Curt.—St. Mary Cray (W.W.F.).

2561. **Aphthona venustula,** Kuts.—Abbey Wood (W.W.).

2568. **Sphæroderma testacea,** F.—Common, Kidbrook, Brockley, on thistles (W.W.).

2569. **Sphæroderma cardui,** Gyll.—Brockley, on knapweed (W.W.).

2575. **Podagrica fuscipes,** L.—Common, Greenwich Marshes, Plumstead Marshes (W.W.).

2576. **Podagrica fuscicornis,** L.—Kidbrook, Greenwich Marshes on mallow (W.W.).

2577. **Mantura rustica,** L.—Not common, Lee, sweeping (W.W.).

2582. **Crepidodera transversa,** Marsh. — Common, Kidbrook, Lee, Plumstead, sweeping (W.W.).

2583. **Crepidodera ferruginea,** Scop.—Common, Lewisham, Plumstead, sweeping (W.W.).

2584. **Crepidodera rufipes,** L.—Not common, Lee (W.W.).

2585. **Crepidodera ventralis,** Ill.—St. Mary Cray (W.W.F.).

2587. **Crepidodera helxines,** L.—Common, Lee, Lewisham, on sallows (W.W.); Chislehurst (S.A.).

2589. **Crepidodera aurata,** Marsh.—Common, Brockley, Lee, Plumstead, on sallows (W.W.); Chislehurst (S.A.).

2596. **Chætocnema confusa,** Boh.—Not common, Lewisham, Plumstead, sweeping (W.W.).

2597. **Chætocnema hortensis,** Fourc.—Lee, Lewisham, Kidbrook, sweeping (W.W.).

2599. **Plectroscelis concinna,** Marsh. — Common throughout the district (W.W.).

2601. **Psylliodes chrysocephala,** L.—Not common, Greenwich, Plumstead Marshes (W.W.).

2604. **Psylliodes napi,** Koch.—Common, Lewisham, Brockley (W.W.).

2605. **Psylliodes cuprea,** Koch.—Not common, Lee pit, Plumstead (W.W.).

2606. **Psylliodes affinis,** Pk.—Common, Kidbrook (W.W.).

2613. **Cassida murræa,** L.—Rare, Greenwich (Stephens).

2616. **Cassida vibex,** F.—Local, Belvedere (W.W.F.).

2620. **Cassida nobilis,** L.—Not common, Plumstead, Lee, sweeping low plants (W.W.).

2622. **Cassida flaveola,** Thunb.—Lee, Brockley, sweeping (W.W.).

2624. **Cassida viridis,** F.—Common throughout district on thistles (W.W.); Chislehurst (S.A.).

2625. **Cassida hemisphærica,** Hbst.—Lee, a pair by beating hedges (W.W.).

TENEBRIONIDÆ.

2626. **Blaps mucronata,** Lat.—Common, Greenwich, in cellars (W.W.).

2637. **Scaphidema metallicum,** F.—Shooter's Hill (W.W.).

2640. **Tenebrio molitor,** L.—Lewisham, in stables (W.W.).

2650. **Hypophlœus bicolor,** Ol.—Lee, under bark (W.W.).

2653. **Helops cœruleus,** L.—Greenwich Park, in old whitethorns (W.W.).

2655. **Helops striatus,** Fourc.—Common throughout district (W.W.); Chislehurst (S.A.).

LAGRIIDÆ.

2656. **Lagria hirta,** L.—Common, Lee, Brockley, Plumstead (W.W.).

CISTELIDÆ.

2657. **Cistela luperus,** Hbst.—Rare, Bexley, Abbey Wood (W.W.F.).

2658. **Cistela ceramboides,** L.—Rare, Burnt Ash Lane, Lee, three specimens on the same old oak on which J.W.D. used to take it. The tree was destroyed the week after my captures (W.W.).

2659. **Cistela murina,** L.—Common, Lee, on whitethorn-bloom (W.W.).

2661. **Mycetochares bipustulata,** Ill.—Lee (W.W.F.).

MELANDRYIDÆ.

2670. **Hallomenus humeralis,** Panz.—Charlton, old fence, (S. Stevens); twenty specimens September 3rd, 1860 (Lewis & Power).

2672. **Melandrya caraboides,** L.—Lee, Charlton, Belvedere (W.W.).

2674. **Anisoxya fuscula,** Ill.—Lee, in dead twigs (G.C.C., Power, and others).

2682. **Hypulus quercinus,** Quens.—Plumstead Wood, one specimen by sweeping (S. Stevens).

PYTHIDÆ.

2691. **Lissodema cursor,** Gyll.—Rare, Grove Park, Lee, one, sweeping in meadows (W.W.).

2692. **Rhinosimus ruficollis,** L.—Shooter's Hill, under bark (W.W.).

2693. **Rhinosimus viridipennis,** Steph.—Shooter's Hill (W.W.).

2694. **Rhinosimus planirostris,** F.—Shooter's Hill (W.W.); Eltham (S.A.).

ŒDEMERIDÆ.

2695. **Œdemera nobilis,** Scop.—Brockley, on stump of elm (W.W.).

2696. **Œdemera lurida,** Marsh.—Common, Lewisham, sweeping. (W.W.).

2699. **Nacerdes melanura,** L.—Greenwich, swarming on the pavement, 1874 (W.W.).

2700. **Ischnomera cœrulea,** L.—Westcombe Park, Greenwich (W.W.)

PYROCHROIDÆ.

2703. **Pyrochroa serraticornis,** Scop.—Lee, Lewisham, on hedge banks (W.W.).

MORDELLIDÆ.

2711. **Mordellistena humeralis,** L. var., **lateralis,** Ol.—Kidbrook (W.W.).

2712. **Modellistena brunnea,** F.—Kidbrook, sweeping (W.W.).

2716. **Anaspis frontalis,** L.—Common, Lee, Lewisham, Shooter's Hill, on whitethorn bloom (W.W.).

2719. **Anaspis pulicaria,** Costa.—Lewisham (W.W.).

2720. **Anaspis rufilabris,** Gyll.—Lewisham (W.W.).

2722. **Anaspis geoffroyi,** Müll.—Lewisham, Shooter's Hill (W.W.).

2723. **Anaspis ruficollis,** F.—Lewisham (W.W.).

2724. **Anaspis costæ,** Emery.—Lewisham, Brockley (W.W.).

2726. **Anaspis maculata,** Fourc.—Lewisham, Brockley (W.W.).

ANTHICIDÆ.

2729. **Notoxus monoceros,** L.—Common, Greenwich Marshes (W.W.).

2732. **Anthicus floralis,** L.—Common, Lee, Lewisham, Plumstead (W.W.).

2737. **Anthicus antherinus,** L.—Common throughout district (W.W.).

MELOIDÆ.

2742. **Meloë proscarabæus,** L.—Common, Blackheath, 1868 (W.W.).

2743. **Meloë violaceus,** Marsh.—Plumstead (W.W.).

ANTHRIBIDÆ.

2751. **Brachytarsus fasciatus,** Forst.—Blackheath, on fence (W.W.).

2753. **Macrocephalus albinus,** L.—Greenwich, on a gentleman's coat-sleeve in church; taken by the late Mr. W. H. Tugwell (W.W.).

CURCULIONIDÆ.

2761. **Attelabus curculionoides,** L.—Common, Shooter's Hill (W.W.).

2763. **Byctiscus populi,** L.—Chislehurst, on aspens (W.W.).

2764. **Rhynchites auratus,** Scop.—Very rare, Crayford (Marsham).

2767. **Rhynchites æquatus,** L.—Common, Abbey Wood, Lewisham, on whitethorn (W.W.).

2768. **Rhynchites æneovirens,** Marsh.—West Wood, Welling, on whitethorn (W.W.).

2769. **Rhynchites cœruleus,** De G.—Not common, Shooter's Hill (W.W.).

2770. **Rhynchites minutus,** Hbst.—Not common, Kidbrook (W.W.).

2775. **Rhynchites sericeus,** Hbst.—Not common, Shooter's Hill (W.W.).

2778. **Deporaüs betulæ,** L.—Common, Lewisham, Lee (W.W.).

2779. **Apion pomonæ,** F.—Not common, Burnt Ash Lane, Lee (W.W.).

2783. **Apion subulatum,** Kirb.—Not common., Kidbrook, sweeping (W.W.).

2784. **Apion ulicis,** Forst.—Common throughout district (W.W.).

2787. **Apion malvæ,** F.—Common, Greenwich Marshes (W.W.).

2788. **Apion urticarium,** Hbst.—Belvedere (W.W.F.).

2789. **Apion miniatum,** Germ.—Common, Kidbrook, Lee, Plumstead, on *Rumex* (W.W.); Chislehurst (S.A.).

2791. **Apion hæmatodes,** Kirb.—Common throughout district (W.W.).

2794. **Apion pallipes,** Kirby.—Local, St. Mary Cray (W.W.F.),

2796. **Apion ruflrostre,** F.—Common, Plumstead, on *Malva* (W.W.)

2800. **Apion varipes,** Germ.—Not common, Lewisham (W.W.).

2803. **Apion apricans,** Hbst.—Common, Lewisham (W.W.).

2805. **Apion assimile,** Kirb.—Common, Lewisham (W.W.).

2808. **Apion dichroum,** Bed.—Common throughout district (W.W.).

2809. **Apion nigritarse,** Kirb.—Common, Lewisham (W.W.).

2810. **Apion confluens,** Kirb. — Lee (W.W.); Erith, Belvedere (W.W.F.).

2813. **Apion hookeri,** Kirb.—Bexley (W.W.F.).

2814. **Apion æneum,** F.—Common, Kidbrook, Lewisham, Plumstead, on mallows (W.W.).

2815. **Apion radiolus,** Kirb.—Common, Greenwich, Plumstead, on mallows (W.W.).

2816. **Apion onopordi,** Kirb.—Common, Lewisham, Kidbrook, on thistles (W.W.).

2817. **Apion carduorum,** Kirb.—Common on thistles throughout the district (W.W.).

2823. **Apion minimum,** Hbst.—Rare, Lewisham (W.W.).

2827. **Apion pisi,** F.—Very common, Lewisham (W.W.).

2828. **Apion æthiops,** Hbst.—Not common, Lewisham (W.W.).

2829. **Apion ebeninum,** Kirb.—Not common, Lewisham (W.W.).

2830. **Apion filirostre,** Kirb.—Charlton (W.W.F.).

2831. **Apion striatum,** Kirb.—Common, Blackheath, on furze (W.W.).

2832. **Apion immune,** Kirb.—Charlton (W.W.F.).

2833. **Apion ononis,** Kirb.—Not common, Plumstead (W.W.).

2835. **Apion ervi,** Kirb.—Common, Lee, Brockley (W.W.).

2839. **Apion meliloti,** Kirb.—Charlton (W.W.F.).

2840. **Apion scutellare,** Kirb.—Charlton (W.W.F.).

2843. **Apion loti,** Kirb.—Common, Lewisham (W.W.).

2851. **Apion marchicum,** Hbst.—Common, Plumstead (W.W.).

2852. **Apion affine,** Kirb.—Lee, Lewisham (W.W.).

2853. **Apion violaceum,** Kirb.— Common, Greenwich, Plumstead (W.W.); Bromley (Sauzé.)

2854. **Apion hydrolapathi,** Kirb. — Common, Lewisham, Lee, sweeping (W.W.).

2855. **Apion humile,** Germ.—Common throughout district (W.W.).

2864. **Otiorhynchus scabrosus,** Marsh.—Not common, Kidbrook, Lee, Plumstead (W.W.).

2867. **Otiorhynchus picipes,** F.—Very common throughout district (W.W.).

2868. **Otiorhynchus sulcatus,** F.—Common, Greenwich, Kidbrook, Plumstead (W.W.); Lewisham (Sauzé).

2871. **Otiorhynchus ovatus,** L.—Lewisham, Greenwich Park (W.W.).

2872. **Otiorhynchus muscorum,** Bris.—Greenwich Park (W.W.); St. Mary Cray (W.W.F.).

2877. **Trachyphlœus scaber,** L.—Shooter's Hill, Plumstead (W.W.).

2878. **Trachyphlœus scabriculus,** L. — Blackheath, under furze bushes (W.W.).

2884. **Cænopsis fissirostris,** Watt.— Chislehurst (Marsh); Plumstead (Smith).

2885. **Cænopsis waltoni,** Boh.—Plumstead, 1887 (W.W.); Plumstead, 1864 (Power).

2886. **Strophosomus coryli,** F.—Common throughout district (W.W.).

2887. **Strophosomus capitatus,** De G. — Common, Shooter's Hill, Lee (W.W.); Chislehurst (S.A.).

2889. **Strophosomus faber,** Hbst.—Lewisham (W.W.).

2890. **Strophosomus lateralis,** Pk.—Plumstead (W.W.).

2891. **Exomias araneiformis,** Schr. — Common, Lee, Lewisham (W.W.).

2895. **Brachysomus echinatus,** Bons.—Brockley (W.W.).

2897. **Sciaphilus muricatus,** F. — Not common, Lewisham, Brockley (W.W.).

2902. **Liophlœus nubilus,** F.—Not uncommon, Brockley, Lee Plumstead (W.W.).

2903. **Metallites marginatus,** Steph.—St. Mary Cray (W.W.F.).

2904. **Polydrusus micans,** F.—West Wood, Welling, on young birches (W.W.).

2906. **Polydrusus tereticollis,** De G.—Shooter's Hill (W.W.).

2907. **Polydrusus pterygomalis,** Sch.—Common, Plumstead, Chislehurst, Lee (W.W.).

2908. **Polydrusus flavipes.** De G.—Lee (W.W.F.).

2910. **Polydrusus cervinus,** L.—Common, Brockley, Lewisham, Plumstead (W.W.).

2912. **Polydrusus confluens,** Steph.—Common. Plumstead, Blackheath, on *Ulex* (W.W.).

2913. **Phyllobius oblongus,** L.—Common, Kidbrook, Lewisham, beating elms (W.W.).

2914. **Phyllobius calcaratus,** F.— Not common, Catford, on alders (W.W.).

2915. **Phyllobius urticæ,** De G.—Common, Lewisham, Brockley, on nettles (W.W.); Swanley (Sauzé).

2916. **Phyllobius pyri,** L.—Common throughout district (W.W.).

2917. **Phyllobius argentatus,** L. — Common, Lewisham, Plumstead (W.W.).

2918. **Phyllobius maculicornis,** Germ.—Not common, Kidbrook, in hedges (W.W.).

2919. **Phyllobius pomonæ,** Ol.—Not common, Lewisham, beating hedges (W.W.).

2921. **Phyllobius viridicollis,** F. — Common throughout district (W.W.).

2922. **Tanymecus palliatus,** F.—Kidbrook, on thistles (W.W.).

2924. **Atactogenus exaratus,** Marsh.—Common, Wickham Lane, Plumstead (W.W.); Chislehurst (W.W.F.).

2925. **Barynotus obscurus,** F.—Not common, Lee (W.W.).

2930. **Sitones cambricus,** Steph.—Not common, Lee, Plumstead (W.W.).

2931. **Sitones regensteinensis,** Hbst. — Common, Blackheath, on furze-bushes (W.W.).

2933. **Sitones crinitus,** Hbst. — Plumstead, Lewisham, sweeping meadows (W.W.).

2935. **Sitones tibialis,** Hbst. — Common, Blackheath, on furze-bushes (W.W.).

2937. **Sitones hispidulus,** F. — Common. Plumstead. (W.W.)

2938. **Sitones humeralis,** Steph. — Erith, Plumstead, Brockley, sweeping (W.W.).

2939. **Sitones meliloti,** Walt.—Plumstead (W.W.F.).

2940. **Sitones flavescens,** Marsh.—Not common, Lewisham (W.W.).

2941. **Sitones puncticollis,** Steph. — Common, Lee, Plumstead, Blackheath (W.W.).

2942. **Sitones suturalis,** Steph. — Not common, Chislehurst, Lewisham (W.W.).

2944. **Sitones lineatus,** L.—Common throughout district (W.W.).

2946. **Gronops lunatus,** F. — Common on an oak fence, Blackheath, 1878 (W.W.).

2949. **Hypera punctata,** F. — Not uncommon, Lee, Lewisham (W.W.).

2952. **Hypera rumicis,** L.—Common, Lee, on *Rumex* (W.W.).

2953. **Hypera pollux,** F.—Not common, Lee, on *Rumex* (W.W.).

2954. **Hypera alternans,** Steph.—Rare, Lee, on *Rumex* (W.W.).

2955. **Hypera polygoni,** L.—Not uncommon, Lewisham, Brockley, Kidbrook (W.W.).

2958. **Hypera suspiciosa,** Hbst.—Wickham Lane, Plumstead, sweeping (W.W.).

2959. **Hypera variabilis,** Hbst.—Not common, Lewisham (W.W.).

2961. **Hypera plantaginis,** De G.—Not common, Lewisham (W.W.).

2963. **Hypera trilineata,** Marsh.—Not common, Lewisham (W.W.).

2964. **Hypera nigrirostris,** F.—Common throughout district (W.W.).

2966. **Cleonus sulcirostris,** L.—Charlton (W.W.F.).

2974. **Liosoma ovatulum,** Clair.—Not uncommon, Lee, Lewisham, var. **collaris,** Rye—Lee pit (W.W.).

2977. **Liparus coronatus,** Gœz.—Not uncommon, Plumstead, Kidbrook, Lee (W.W.).

2979. **Curculio abietis,** L.—Bostall Wood, Plumstead (W.W.).

2980. **Plinthus caliginosus,** F.—Charlton (W.W.F.).

2984. **Orchestes quercus,** L. — Common, Lee, Lewisham (W.W.); Bromley (Sauzé).

2986. **Orchestes alni,** L.—Common, Kidbrook, on elms. Var. **ferrugineus,** Marsh.—Kidbrook (W.W.).

2987. **Orchestes ilicis,** F.—Not common, Abbey Wood, Shooter's Hill, beating oak (W.W.).

2989. **Orchestes avellanæ,** Don.—Not common, Shooter's Hill, on oak (W.W.).

2990. **Orchestes fagi,** L.—Common, Lewisham, on beech (W.W.).

2992. **Orchestes rusci,** Hbst.—Not common, Shooter's Hill, on birch (W.W.).

2994. **Orchestes stigma,** Germ.—Common, Chislehurst (W.W.).

2996. **Orchestes salicis,** L.—Common, Brockley, Catford, on sallows and willows (W.W.).

2998. **Rhamphus flavicornis,** Clair.—Shooter's Hill, Lewisham, on oak (W.W.).

3000. **Pseudostyphlus pilumnus,** Gyll.—Burnt-ash Lane, Lee (W.W.).

3004. **Erirhinus scirpi,** F.—Not uncommon, Lee pit (W.W.).

3006. **Erirhinus acridulus,** L.—Common, Lee, Brockley, Plumstead Marshes (W.W.).

3010. **Thryogenes scirrhosus,** Gyll.—Erith, one specimen (W.W.); Eltham (W.W.F.).

3013. **Dorytomus tortrix,** L.—Catford, on alders (W.W.).

3016. **Dorytomus maculatus,** Marsh.—Common, Lee, Lewisham, on willows (W.W.).

3019. **Dorytomus pectoralis,** Gyll.—Brockley, on sallows (W.W.).

3026. **Tanysphyrus lemnæ,** F.—Common, Lee, Greenwich, and Plumstead Marshes (W.W.).

3027. **Bagous alismatis,** Marsh. — Common, Lee, Plumstead, in ditches (W.W.).

3029. **Bagous cylindrus,** Payk. — Common, Greenwich Marshes (W.W.).

3034. **Bagous tempestivus,** Hbst. — Greenwich Marshes, in ditches (W.W.).

3035. **Bagous lutulosus,** Gyll.—Lee, one specimen (W.W.).

3041. **Bagous glabrirostris,** Hbst.—Grove Park, Lee (W.W.).

3042. **Anoplus plantaris,** Næz.—Common throughout district, on birch (W.W.).

3045. **Elleschus bipunctatus,** L.—Shooter's Hill, on dwarf sallows (W.W.).

3048. **Tychius squamulatus,** Gyll.—Charlton (W.W.F.).

3049. **Tychius schneideri,** Hbst. — Shooter's Hill, under leaves (W.W.); Charlton (W.W.F.).

3050. **Tychius meliloti,** Steph.—Charlton (W.W.F.).

3051. **Tychius lineatulus,** Steph.—Not common Brockley (W.W.).

3053. **Tychius junceus,** Reich.—Charlton (W.W.F.).

3056. **Miccotrogus picirostris,** F.—Common, Brockley, Shooter's Hill (W.W.).

3059. **Sibinia primita,** Hbst. — Brockley, Lewisham, Shooter's Hill (W.W.).

3061. **Miarus campanulæ,** L. — Common, Brockley, in flowers of *Campanula* (W.W.).

3065. **Gymnetron beccabungæ,** L.—Plumstead, sweeping (W.W.).

3067. **Gymnetron rostellum,** Hbst.—Lee (W.W.F.).

3068. **Gymnetron pascuorum,** Gyll.—Not common, Lee, Lewisham, (W.W.).

3070. **Gymnetron antirrhini,** Payk. — Common, Plumstead, on *Linaria vulgaris* (W.W.).

3071. **Gymnetron collinus,** Gyll. — Charlton pits, on *Linaria vulgaris* (S. Stevens).

3072. **Gymnetron linariæ,** Pz.—Charlton pits, on *Linaria vulgaris* (S. Stevens).

3073. **Mecinus pyraster,** Hbst.—Not common, Lee (W.W.).

3076. **Anthonomus ulmi,** De G.—Common, Kidbrook, Lee, Plumstead, beating elm (W.W.).

3078. **Anthonomus pedicularius,** L.—Common, Kidbrook, Lee, in whitethorn blossom (W.W.).

3082. **Anthonomus pomorum,** L.—Lee, Brockley (W.W.).

3084. **Anthonomus rubi,** Hbst.—Common, Lee, Lewisham, beating hedges (W.W.).

3087. **Nanophyes lythri,** F.—Not common, Lee (W.W.).

3089. **Cionus scrophulariæ,** L.—Common, Plumstead, Lewisham (W.W.).

3090. **Cionus tuberculosus,** Scop.—Common, Kidbrook, Greenwich, Lee, on *Scrophularia* (W.W.).

3092. **Cionus hortulanus,** Marsh.—Common, Lewisham (W.W.).

3094. **Cionus blattariæ,** F.—Common, Lewisham, Kidbrook (W.W.).

309 . **Cionus pulchellus,** Hbst.—Common, Lewisham, Blackheath (W.W.); St. Mary Cray (W.W.F.).

3098. **Acalles roboris,** Curt.—Plumstead (W.W.); Bexley (W.W.F.).

3099. **Acalles ptinoides,** Marsh.—Plumstead, Bexley (W.W.F.).

3100. **Acalles turbatus,** Boh.—Lee (W.W.F.).

3102. **Cœliodes rubicundus,** Hbst.—Not common, Lee, Lewisham (W.W.).

3103. **Cœliodes quercûs,** F.—Common, Plumstead, Shooter's Hill, beating oak (W.W.).

3105. **Cœliodes erythroleucus,** Gmel.—Charlton (W.W.F.).

3106. **Cœliodes cardui,** Hbst.—Brockley, Lee (W.W.).

3107. **Cœliodes 4 maculatus,** L.—Common throughout district on nettles (W.W.); Bromley (Sauzé).

3109. **Cœliodes exiguus,** Ol.—Belvedere (W.W.F.).

3112. **Ceuthorhynchus assimilis,** Payk. — Kidbrook, Lewisham (W.W.).

3115. **Ceuthorhynchus constrictus,** Marsh. — Kidbrook (W.W.); Belvedere, St Mary Cray (W.W.F.).

3117. **Ceuthorhynchus ericæ,** Gyll.—Plumstead, Bostall Heath (W.W.).

3118. **Ceuthorhynchus erysimi,** F. — Common, Lewisham, Plumstead, Brockley (W.W.).

3119. **Ceuthorhynchus contractus,** Marsh. — Common throughout district (W.W.).

3120. **Ceuthorhynchus cyanipennis,** Germ. — Not common, Lee, Shooter's Hill (W.W.).

3121. **Ceuthorhynchus chalybæus,** Germ. — Common, Lewisham, Plumstead (W.W.).

3124. **Ceuthorhynchus pilosellus,** Gyll.—Charlton, Plumstead (S. Stevens).

3125. **Ceuthorhynchus quadridens,** Pz.—Common throughout district (W.W.).

3127. **Ceuthorhynchus pollinarius,** Först. — Common throughout district on nettles (W.W.); Bromley (Sauzé).

3130. **Ceuthorhynchus picitarsis,** Gyll.—Plumstead Marshes (W.W.).

3131. **Ceuthorhynchus pleurostigma,** Marsh.—Common throughout district (W.W.).

3132. **Ceuthorhynchus alliariæ,** Bris.—Belvedere, St Mary Cray (W.W.F.).

3133. **Ceuthorhynchus rapæ,** Gyll.—Rare, Lewisham (W.W.); Lee (G.C.C.); Belvedere (S. Stevens).

3139. **Ceuthorhynchus rugulosus,** Hbst. — Common throughout district (W.W.).

3141. **Ceuthorhynchus asperifoliarum,** Gyll.—Lee pit (W.W.).

3144. **Ceuthorhynchus chrysanthemi,** Germ.—Lee (W.W.).

3146. **Ceuthorhynchus litura,** F.—Common, Kidbrook (W.W.) Chislehurst (S.A.).

3149. **Ceuthorhynchidius floralis,** Pk.—Common throughout district (W.W.).

3151. **Ceuthorhynchidius pyrrhorhynchus,** Marsh.—Brockley, Lee (W.W.).

3154. **Ceuthorhynchidius melanarius,** Steph.—Lee (W.W.).

3159. **Ceuthorhynchidius quercicola,** Payk.—Belvedere (W.W.F.).

3161. **Ceuthorhynchidius troglodytes,** F.—Common, Lee, Lewisham, sweeping meadows (W.W.).

3162. **Ceuthorhynchidius chevrolati,** Bris.—Not common, Brockley, Lee, sweeping (W.W.).

3167. **Amalus hæmorrhous,** Hbst.—Lee, Plumstead (W.W.).

3168. **Rhinoncus pericarpius,** L.—Not uncommon, Lee (W.W.).

3169. **Rhinoncus gramineus,** F.—Brockley (W.W.).

3171. **Rhinoncus castor,** F.—Lewisham, Plumstead (W.W.).

3175. **Phytobius comari,** Hbst.—Plumstead Marshes (W.W.).

3177. **Phytobius 4-tuberculatus,** F.—Not common, Lee (W.W.).

3181. **Phytobius muricatus,** Bris.—Lee (Dr. Power & G.C.C).

3183. **Baris laticollis,** Marsh.—Not common, Lee (W.W.); Charlton (S. Stevens).

3185. **Baris lepidii,** Germ.—Shooter's Hill (W.W.F.).

3188. **Balaninus venosus,** Grav.—West Wood, Welling, Lee (W.W.)

3189. **Balaninus nucum,** L.—Shooter's Hill, Plumstead, on hazel (W.W.).

3190. **Balaninus turbatus,** Gyll.—West Wood, Welling, Abbey Wood, Lee (W.W.).

3192. **Balaninus rubidus,** Gyll.—Not common, Shooter's Hill, Lee (W.W.).

3193. **Balaninus villosus,** F.—Common, Lee, on hazel (W.W.).

3194. **Balaninus salicivorus,** Pk.—Common, Lee, Lewisham, on willows (W.W.).

3195. **Balaninus pyrrhoceras,** Marsh.—Common, Lee, Lewisham beating hedges (W.W.).

3196. **Calandra granaria,** L.—Common, Greenwich in grain (W.W.).

3199. **Cossonus ferrugineus,** Clair.—Greenwich Park, three specimens in decayed elm (W.W.).

3201. **Rhyncolus lignarius,** Marsh.—Common, Greenwich Park, in elm (W.W.).

3209. **Magdalis carbonaria,** L.—Not common, Lee, beating hedges (W.W.).

3210. **Magdalis armigera,** Fourc.—Common, Lee, in hedges (W.W.); Belvedere (W.W.F.).

3211. **Magdalis cerasi,** L.—Common, Plumstead, Lee, beating hedges (W.W.).

3212. **Magdalis pruni,** L.—Not uncommon, Lee, in hedges (W.W.).

3213. **Magdalis barbicornis,** Lat.—Not common, Lee, in hedges (W.W.).

SCOLYTIDÆ.

3215. **Scolytus destructor,** Ol.—Greenwich Park, in elm; Lewisham (W.W.).

3216. **Scolytus pruni,** Ratz.—Common, Blackheath, on the wing, 1882 (W.W.).

3217. **Scolytus intricatus,** Ratz.—Lewisham (W.W.).

3224. **Hylastes palliatus,** Gyll.—Lee (W.W.).

3225. **Hylastinus obscurus,** Marsh.—Blackheath, on furze (W.W.).

3226. **Hylesinus crenatus,** F.—Abbey Wood (W.W.F.).

3227. **Hylesinus oleiperda,** F.—Lewisham, one sweeping (W.W.).

3228. **Hylesinus fraxini,** Pz.—Common, Lewisham (W.W.).

3229. **Hylesinus vittatus,** F.—Greenwich, in elm (W.W.).

3232. **Cissophagus hederæ,** Schm.—St. Mary Cray (G.C.C.).

3245. **Xylocleptes bispinus,** Duft.—Common, Plumstead, in dead stems of *Clematis* (W.W.); also (J.W.R.) in 1837.

3247. **Dryocætes villosus,** F.—Greenwich Park (W.W.).

3254. **Tomicus laricis,** F.—Bostall Wood (W.W.).

3263. **Xyleborus dryographus,** Ratz.—Abbey Wood (W.W.F.).

3264. **Xyleborus saxesini,** Ratz.—Blackheath (W.W.).

D. LEPIDOPTERA (Butterflies and Moths).

The district from the Ravensbourne to the Darenth, here surveyed, has been the hunting-ground of our leading lepidopterists for over two centuries—Ray, Banks, Stephens, Curtis, Stainton, Darwin, Douglas, Weir, MacLachlan, Scott, and many others lived and worked here, and had it not been for the somewhat limited time in which the list has had to be compiled, a remarkable one could have been presented. The "old days," however, of the district are past; the extension of "London" into the old suburban districts, the further extension of suburban London, the filling up and destruction of "Greenwich Marshes," and, not least, the increase of the ubiquitous sparrow, have all tended to reduce the haunts of many of our local species, and, in many places, to exterminate some of the more local and rare ones altogether. When once one gets outside London, the district is still a very rich one in the matter of species, even if some are no longer as abundant as formerly. The exclusion of West Wickham and Darenth has necessitated many omissions of species that possibly exist within our limits, but have not been captured there, collectors going to these famous central localities, where a "bag" is almost a matter of certainty. It will be noted here and there that these localities are mentioned when the records have been taken from local lists including these places within their boundaries. There have been many helpers in the production of this list, and the following lepidopterists, most of whom have sent records, appear by their initials :—

B.W.A. = B. W. Adkin.
R.A. = Robt. Adkin.
H.A. = Hope Alderson.
W.B. = W. Barnes.
P.J.B. = P. J. Barraud.
W.S.B. = W. S. Bolas.
B.A.B. = B. A. Bower.
G.B.B. = G. B. Browne.
J.A.B. = J. A. Butterfield.
F.M.B.C. = F. M. B. Carr.
C.W.C. = C. W. Colthrup.
F.W.C. = F. W. Cowham.
J.W.D. = J. W. Douglas.
C.F. = C. Fenn.
A.H.J. = A. H. Jones.
L.W.N. = L. W. Newman.
H.E.P. = H. E. Page.
A.R. = A. Russell.
H.T.S. = H. T. Stainton.
H.J.T. = H. J. Turner.
J.W.T. = J. W. Tutt.
W.W. = W. West.
Ent. = *Entomologist.*
E.W.I. = *Entomologists' Weekly Intelligencer.*

Besides these, we are indebted to H. E. Page, who has carefully collated the records from "The Entomologist's Record," Vols. I—XIX., "The Entomologist," Vols. XVI—XXXIV., "The Entomologist's Monthly Magazine," Tutt's "Nat. Hist, Brit. Butterflies," Vol. I., "British Lepidoptera, Vols. I.—V.;

"British Noctuæ," Vols. I—IV., &c., and to H. J. Turner, who has done the same from the "Entomologists' Weekly Intelligencer," Vols. I—X., and has collated the lists and magazine records in the sections, **Tineina** and **Tortrices.**

1. PAPILIONIDES.

Papilio machaon, L.—Two larvæ in garden at Farnborough, July 17th, 1900 (H.A., "Ent. Rec.," XII., p. 274).

Pieris brassicæ, L.—Abundant throughout; not so numerous of late years.

Pieris rapæ, L.—Abundant throughout. More so than either of the other Pierids.

Pieris napi, L.—Common throughout, but less abundant than the last.

Euchloë cardamines, L.—Generally distributed, and to be found in suitable places.—Occurred as late as 1885 in Westcombe Park, Shooter's Hill, etc. (J.W.T.); Kidbrook Lane, Burnt Ash (26 captured, April 20th, 1863, between 8 a.m. and noon), Southend, Beckenham, Dartford district (W.W.); Bexley district, fairly common (L.W.N.); Lee district, rare (C.F.); fairly common in Lee and Lewisham, 1876, no more recent date (R.A.); fairly common at Bromley (B.W.A.); not uncommon between Eltham and Chislehurst in "the Green Lane" (A.H.J.); locally numerous at Farnborough (W.B.); rare at Southend, Catford (A.R.); a few, Bromley, 1905 (Cowham); Beckenham (Bolas).

Gonepteryx rhamni, L.—Fairly commom in district generally.—Lee, Kidbrook Lane, Shooter's Hill, Dartford district (W.W.); Bexley district, rare (L.W.N.); Chislehurst, Orpington and Erith district (C.F.); occasionally in Lewisham 1877–98, no more recent records (R.A.); now sparingly round Eltham; fairly abundant at Paul's Cray (A.H.J.); Bostall Heath (H.J.T.); common at Farnborough, larvæ feed on dog-wood (H.A.); rare at Southend, Catford (A.R.); Farningham and Eynsford, 1900 (P.J.B.); two specimens, Hither Green, 1906 (Cowham); Beckenham (Bolas).

Colias edusa, Fab.—Uncertain, occurs abundantly in those seasons when immigration takes place, *e.g.*, 1877, 1892, 1900, etc. In such years generally distributed.—Greenwich, Lee, Lewisham Dartford (W.W.); Bexley district (L.W.N.); on railway-banks at Blackheath, and Lewisham (C.F.); 1877, common in Lewisham (R.A.); occasionally, Bromley (B.W.A.); occasionally in good years at Eltham (A.H.J.); J. Jenner Weir reports a specimen at Catford Bridge, Lewisham, 1883;

several taken in Royal Arsenal, Woolwich, August, 1892 (H. Allbuary); sparingly in clover-fields round Keston, 1892 (F.W. Biddle); rare at Farnborough, 1887 (H.A.); 1892 (W.B.); one seen at Southend, 1900, none since (A.R.); Cudham (Ent.); railway banks at Sidcup, Crayford, Eltham, 1900 (C.W.C.); in lucerne field between Hither Green and Bromley, 1900 (D. Chittenden); Hither Green 1900 (W. J. Harris); Chelsfield and Blackheath, 1900 (F.M.B.C.); Bexley, 1900, not so plentiful as **C. hyale** (W. Carter).

Colias hyale, L.—Also common in years when immigration takes place, *e.g.*, 1868, 1875 and 1900.—Abundant July, 1868, in meadows, Burnt Ash Lane; imagines drying their wings at 8 a.m., Brockley, etc (W.W.); Bexley district (L.W.N.); Erith and Dartford district (C.F.); one at Hayes, 1891 (W.B.); railway-banks at Sidcup, Crayford and Eltham, 1900 (C.W.C.); in lucerne field between Hither Green and Bromley, 1900 (D. Chittenden); Dartford, 1900 (J. W. Davis); Old Bexley, Uplands (Bexley Heath), Crayford, Plumstead Marshes, 1900 (W. Carter); Erith, 1900, fairly common (E. Sabine); Cudham, 1900 (W. A.Cope); Hither Green, 1901 (D. Chittenden).

Dryas paphia, L.—Scarce, and probably now almost extinct.—June 25th, 1865, in West Wood, Shooter's Hill, Crown Woods (W.W.); Joyden's Wood, Bexley, formerly (C.F.); one taken in Holwood Park, 1899 (H.A.).

Argynnis adippe, L.—One specimen at Sidcup. (A.H.J.).

Argynnis aglaia, L.—Very scarce.—Formerly rather common at Darenth (W.W.); met with occasionally (G.B.B.); Shoreham, 1899 (F.M.B.C.).

Brenthis euphrosyne, L.—Local.—Southend, Lewisham, Shooter's Hill (W.W.); formerly abundant in all woods in district from Shooter's Hill to Orpington, Bexley, and Birch Wood (C.F.); fairly common at Dartford (B.W.A.); not uncommon at Shooter's Hill Wood, 1858; more recently in woods between Eltham and Sidcup, but has since disappeared from both these localities (A.H.J.); numerous at Holwood Park, 1900 (W.B.); Bexley occasionally, but not common in recent years (G.B.B.); Farningham and Eynsford, 1900 (P.J.B.); fairly common at Chelsfield and Keston (Bromley List).

Brenthis selene, Schiff.—Very local.—Shooter's Hill Wood, formerly (W.W.); a specimen taken June 1883 at West Wickham (W. M. Geldart); fairly common at Chelsfield, and Keston (Bromley List).

Polygonia c-album, L.—Very local.—Swanscombe Wood, once (W.W.); very rare at Chelsfield and West Wickham (Bromley List).

Eugonia polychloros, L.—Occurs fairly commonly some years in suitable localities. — Beckenham, Kidbrook Lane (W.W.); Bexley district, occasionally (L.W.N.); hibernated specimen this year (1907) at Paul's Cray Common (C.F.); odd specimens in 1875 and 1878 (R.A.); took a brood of 200 larvæ off elm on high road between Woolwich and Plumstead, June 11th, 1859 (A.H.J.); scarce at Farnborough, but increasing in numbers (W.B.); Brockley, 1896 (Manger); Lee, 1901 (F.M.B.C.); rare at Hayes (Bromley List).

Aglais urticæ, L.—Generally distributed.—Westcombe Park, Blackheath, Ladywell, Shooter's Hill, Grove Park, etc. (in 1907) (J.W.T.); Kidbrook Lane, Greenwich, Lee, etc. (W.W.); Bexley district, abundant (L.W.N.); rarer in northern part of district (C.F.); common in Lewisham (R.A.); larvæ sometimes abundant in Kidbrook Lane (H.E.P.); now scarce in Eltham district (A.H.J.); very common at Farnborough (H.A.); common at Southend, Catford (A.R.); Hither Green, Bromley (Cowham).

Euvanessa antiopa, L.—Odd specimens taken during last 50 years at Eltham, Charlton and Lewisham (C.F.); a fine specimen taken by myself on September 1st, 1901, in garden, Eltham (A.H.J.); one at Keston, 1897 (W.B.); one specimen taken in garden at Lee, August 24th, 1901 (G.B.B.); one specimen in garden at Bexley, 1900 (Vesey-Holt); one at sugar in orchard, 1900, Beckenham (G. H. Thompson).

Vanessa io, L.—Generally distributed.—Westcombe Park, Shooter's Hill, Lee, etc. (in 1907) (J.W.T.); Kidbrook Lane, Burnt Ash Lane (larvæ, June, imagines, July), Lewisham, (W.W.); Bexley district, abundant in some seasons (L.W.N.); two only in 1875 at Lewisham (R.A.); not numerous at Farnborough (H.A.); rare at Southend, Catford (A.R.); one at Lee, 1899 (C.M.B.C.); Farningham and Eynsford (P.J.B.); fairly common at Bromley (Bromley List); Beckenham rare (Bolas).

Pyrameis atalanta, L. — Generally distributed. — Westcombe Park, common in gardens at sunflowers, Shooter's Hill, Paul's Cray Common, Grove Park, etc. (J.W.T.); Lee, Blackheath (larvæ common on the stunted nettles growing in the pits) (W.W.); Bexley district, abundant in some seasons (L.W.N.); Plumstead, larvæ sometimes abundant (H.E.P.); Cudham (Ent.); fairly common in Lewisham, but fitful in appearance (R.A.); common generally (B.W.A.); still abundant in Eltham district, especially in good plum years (A.H.J.); abundant in August and September at Farnborough (W.B.); Southend, Catford, common in 1899, rare since (A.R.); abundant, Lee, 1899 (F.M.B.C.); Hither Green, 1905-6 (Cowham); Beckenham (Bolas).

Pyrameis cardui, L.—Abundant in certain seasons, when immigration takes place.—Westcombe Park, Grove Park, Chislehurst, etc. (J.W.T.); Greenwich Marshes, Burnt Ash, etc. (W.W.); Cudham (Ent.); Bexley district, abundant some seasons (L.W.N.); sometimes abundant in Lewisham, but fitful, 1899 (R.A.); plentiful in Farnborough in 1906 (H.A.); rare at Southend, Catford (A.N.); in lucerne field between Hither Green and Bromley, 1900 (D. Chittenden); Lee, 1899 (F.M.B.C.); Hither Green, 1905-6 (Cowham); Beckenham (Bolas).

Melanargia galathea, L.—Scarce.—Two occurred at Bexley in 1903, common a few miles distant (L.W.N.); a specimen taken, 1858, in the road between top of Shooter's Hill and Welling (A.H.J.); a few at Green Street Green and Chelsfield (W.B.); common at Eynsford (G.W.B); Shoreham, 1899 (F.M.B.C.).

Pararge egeria, L.—Very local.—Shooter's Hill formerly (May and August) (W.W.); Orpington district (C.F.); scarce at Farnborough, but a few met with every year, also at Chelsfield, Orpington (W.B.).

Pararge megaera, L.—Rather local, by roadsides, occurring in May, August and October.—Kidbrook, Lee, Lewisham, Shooter's Hill, Dartford (W.W.); common at Dartford Heath, 1873 (R.A.); generally distributed, Farnborough (H.A.); rare at Bromley and Farnborough (Bromley List).

Satyrus semele, L.—Local and rare.—One only at Lewisham, 1871 (R.A.); Chelsfield (Hewitt); fairly common at Eynsford (G.B.B.).

Epinephele ianira, L. — Common, and generally distributed.—Formerly abundant in Westcombe Park, now (1907) occurs at Ladywell, Catford, Grove Park, Chislehurst, etc. (J.W.T.); Blackheath, Lee, Plumstead, etc. (W.W.); Bexley district, common (L.W.N.); fairly common in Lewisham, 1890, 1898, 1901 (R.A.); Bromley, common generally (B.W.A.); formerly common in all meadows round Eltham, now distinctly scarcer (A.H.J.); most abundant around Farnborough (W.B.); Bromley, Hither Green (Cowham); Beckenham (Bolas).

Epinephele tithonus, L.—Locally common in lanes and on the outskirts of woods.—Shooter's Hill, Lee, Lewisham, Blackheath, etc. (W.W.); Bexley district, abundant (L.W.N.); disappeared from Eltham, but occurs on Dartford Heath (A.H.J.); common locally at Farnborough, Bromley, Keston, Orpington (H.A.); taken near Chislehurst (G.B.B.); fairly common at Bromley, Hayes, and Keston (Bromley List); Abbey Wood (H.E.P).

Enodia hyperanthus, L.—Local.—West Wood, Shooter's Hill, Darenth, etc. (W.W.); formerly common at Joyden's Wood, Birch Wood, etc. (C.F.); locally numerous at Chelsfield (H.A.); fairly common at Paul's Cray Common (Bromley List).

Cœnonympha pamphilus, L.—Common and generally distributed.—Blackheath, etc. (J W.T.); Bexley district, common (L.W.N.); Dartford district, common (H.E.P.); fairly common at Dartford Heath, Lee, and Lewisham (R.A.); not so common as formerly in Eltham district (A.H.J.); Chislehurst (H.J.T.); abundant all round Farnborough (W.B.); Beckenham (Bolas).

Bithys quercûs, L.—Local.—Shooter's Hill, larvæ, June 20th (W.W.); Bexley district, common in some seasons (L.W.N.); abundant in 1858 and 1859 at Shooter's Hill Wood, but not seen there for many years (A.H.J.); one at Seres Green, 1904, one at Holwood, 1906 (W.B.); rare at Farnborough (Bromley List).

Edwardsia w-album, Kn.—Very local.—Dartford district (larvæ, June 16th, on wych elm) (W.W.).

Callophrys rubi, L.—Local.—Shooter's Hill (H.E.P.); West Wood, Bexley and Erith (C.F.); a few locally at Orpington (H.A.); occasionally at Eynsford (G.B.B.); Cudham, 1898, Wrotham, 1901 (F.M.B.C.); Farningham (P.J.B.).

Rumicia phlæas, L.—Common, and generally distributed.—Blackheath, Shooter's Hill, etc. (J.W.T.); many localities (W.W.); Bexley district, common (L.W.N.); Chislehurst (H.E.P.); fairly common at Lewisham, but fitful, 1878, 1901 (R.A.); common generally (B.W.A.); abundant around Farnborough (W.B.); Bexley Heath (Wood); Mottingham, Dartford Heath (B.A.B.); rare at Southend, Catford (A.R.); Farningham and Eynsford, 1900 (P.J.B.); Hither Green, plentiful (Cowham); Beckenham (Bolas).—Var. **schmidtii,** Gerh.—Plumstead (Webb); Dartford Heath 1889, (Youens).

Cupido minima, Fuess.—Plentiful locally.—Green Street Green, Farnborough, etc. (H.A.); Farningham and Eynsford, 1900 (P.J.B.).

Cyaniris semiargus, Rott.—Recorded from Addiscombe, 1880 (Bromley List). [Almost certainly an error (J.W.T.).]

Plebeius ægon, Schiff.—Very local.—Crown Woods, Shooter's Hill (W.W.); occasionally at Eynsford (G.B.B.).

Aricia astrarche, Bgstr.—Very local.—Bexley district, scarce (L.W.N.); a specimen in Greenwich Park, July 27th, 1859 (A.H.J.); occasionally at various places (G.B.B.); Farningham and Eynsford 1900 (P.J.B.).

Polyommatus icarus, Rott.—Generally distributed and abundant.—Shooter's Hill, Welling, Plumstead, etc. (J.W.T.); Bexley district, abundant (L.W.N.); very local in Eltham district (A.H.J.); still common in the south of area; rarer as inhabited districts approached (C.F.); common in Lewisham from 1885–97 (R.A.); abundant around Farnborough (W.B.); Eltham, August, 1906 (S. R. Ashby); Shoreham, 1899 (F.M.B.C.); Hither Green, 1906 (Cowham).

Agriades bellargus, Rott.—Local, only on verge of chalk.

Agriades corydon, Poda.—Very local.—Solitary examples on railway-bank at Brockley (W.W.); larvæ at Orpington, 1906 (W.B.); Farnborough (H.A.); Shoreham, 1899 (F.M.B.C.); Beckenham (Ent.).

Celastrina argiolus, L.—Common throughout in woods and gardens in May and August.—Westcombe Park, Blackheath, etc. (J.W.T.); Bexley district, abundant some seasons (L.W.N); Chislehurst (H.J.T.); Eltham, of late years a common garden insect (A.H.J.); uncertain in appearance, but sometimes abundant (C.F.); abundant in Lewisham, 1901 (R.A.); fairly common, Bromley (B.W.A.); common around Farnborough (H.A.); rare at Southend, Catford (A.R.); in garden at Erith, 1900, very common, captured 50 in an hour (E. Sabine); Farningham and Eynsford (P.J.B.); Cudham, 1898, very abundant 1901 in Burnt Ash Road, Lee (F.M.B.C.); Court Hill Road, Lewisham, 1901 (D. Chittenden); Hither Green, 1906 (Cowham); Hayes (Ent.).

2. URBICOLIDES.

Hesperia malvæ, L.—Locally common, in woods.—West Wood, Crown Wood, Shooter's Hill, (W.W.); railway-banks at Grove Park, near Chislehurst, Orpington, etc. (C.F.); common, Farnborough, Keston (H.A.); also June 9th, 1891 ("Brit. Butterflies"); May 21st, 1901, Shoreham ("Brit. Butterflies"); Bexley (C.F.); Lee and Farningham (A.B.); Shoreham (F.M.B.C.); Eynsford, 1900 (R.J.B.); Cudham, 1898 (F.M.B.C.); Paul's Cray Common, 1906 (Cowham).

Nisoniades tages, L.—Local.—Shooter's Hill (W.W.); Bexley and Orpington district (C.F.); common, Farnborough, Keston (H.A.); Shoreham (*vide* "Brit. Butterflies"); Farningham and Eynsford, 1900 (P.J.B.); fairly common at Paul's Cray Common (Bromley List).

Urbicola comma, L.—Very local.—Three at Farnborough, 1901 (W.B.); near Eynsford (G.B.B.); Shoreham, 1899 (F.M.B.C.).

Augiades sylvanus, Esp.—Locally common.—Plumstead, Greenwich Marshes, Lewisham, Lee (W.W.); Bexley district, rare (L.W.N.); occurs sparingly in woods near Sidcup (A.H.J.); formerly generally common but never abundant at Blackheath (C.F.); common around Farnborough (H.A.); Shoreham (F.M.B.C.); Dartford district (James); common at Cudham (Bromley List).

Adopæa flava, Brünn. — Local. — Plumstead, Lee, etc. (W.W.); Bexley district, rare (L.W.N.); scarce around Farnborough; odd records throughout district (W.B.); Shoreham (F.M.B.C.); Cudham (Bromley List).

3. SPHINGIDES.

Smerinthus ocellata, L.—Local, fairly common on the willows by the ditches of the Thames' Marshes from Greenwich to Erith, imagines May, larvæ July and August.—Westcombe Park, Greenwich, etc. (J.W.T.); railway-bank Brockley, Lee, Lewisham, etc. (W.W.); Bexley district, common (L.W.N.); Hither Green (F.W.C.); Farnborough (W.B.); Eltham (A.H.J.); Bromley (Ent.); Beckenham (Bolas); Sidcup and Chislehurst (C.F.).

Amorpha populi, L.—Generally distributed, in lanes, gardens, etc., on poplar.—Westcombe Park, Blackheath, Lewisham, Plumstead, etc., imagines May—June, larvæ July—August (J.W.T.); Lee, Greenwich, etc. (W.W.); Lower Sydenham (A. M. Cochrane); Bexley district, abundant (L.W.N.); Southend, Catford (A.R.); Farnborough (W.B.); Eltham (A.H.J.); Bromley (B.W.A.); Beckenham (Bolas); Mottingham, Sidcup, Chislehurst (C.F.).

Mimas tiliæ, L.—Generally distributed.—Greenwich (on the limes in the Naval School grounds), etc. (J.W.T.); on elms in Greenwich Park, Lee, Lewisham, etc. (W.W.); Bexley district, abundant (L.W.N.); Blackheath, Lee commonly (C.F.); Southend, Catford (A.R.); Hither Green (F.W.C.); Farnborough (W.B.); Eltham (A.H.J.); Beckenham (Bolas); Lower Sydenham (A. M. Cochrane).

Manduca atropos, L.—Occasional, especially in years of immigration.—Kidbrook Lane, bred October and May from pupæ dug in August, 1866 (W.W.); Bexley district, common some years (L.W.N.); Lee, Lewisham, as imagines (Fenn); Farnborough (W.B.); Eltham, common in 1865 (A.H.J.); Dartford (B.W.A.); Greenwich (J.W.T.).

Agrius convolvuli, L.—Fairly frequent in some years, when immigration has taken place.—Westcombe Park, etc. (J.W.T.); Brockley railway-bank (1868); Greenwich Park (1870); Greenwich

in a garden (W.W.); Bexley district, fairly common some years (L.W.N.); at long intervals at Eltham, Eltham Road, Lee, and Lewisham (C.F.); Farnborough (W.B.); Sidcup, 1885, Foot's Cray and Blackheath, 1886 (Ent.); Beckenham (Bolas).

Sphinx ligustri, L.—Rather local.—Larvæ frequent on privet, Lee, Lewisham, Greenwich, etc. (W.W.); Bexley district, common some years (L.W.N.); formerly common throughout district, now chiefly in extreme south and east of area (C.F.); Southend, Catford (A.R.); Farnborough (W.B.); Eltham (A.H.J.); Lee, Lewisham and Blackheath (B.W.A.); Beckenham (Bolas).

Phryxus livornica, Esp.—Immigrant.—Once taken at Greenwich, 1880 (W.W.); one at Lewisham by Stainton (C.F.).

Theretra porcellus, L.—Local.—Bexley district, fairly common (L.W.N.); Dartford Heath (C.F.); larvæ at Keston (H.A.); Beckenham (Bolas).

Eumorpha elpenor, L.—Generally distributed in the ditches of the Thames' marshes from Greenwich to Erith.—Plumstead Marshes (W.W.); Bexley district, fairly common (L.W.N.); used to occur in Erith marshes at light (C.F.); Dartford (B.W.A.).

Sesia stellatarum, L.—Immigrant; abundant some years.—Blackheath, Lewisham, Westcombe Park, etc. (J.W.T.); Bexley district, common some years ago (L.W.N.); occasionally common in gardens at Lee, Eltham (C.F.); Southend, Catford (A.R.); Hither Green (F.W.C.); Farnborough (H.A.); Blackheath (B.W.A.).

Hemaris tityus, L.—(**fuciformis,** L.).—Very local.—West Wood, Shooter's Hill, 1866 (W.W.); Darenth, formerly common, now rare (J.W.T.); Bexley district, common some years (L.W.N.); Joyden's Wood, Greenhithe (C.F.).

4. ATTACIDES.

Saturnia pavonia, L.—Local.—Plumstead (W.W.); Bexley dist., common (L.W.N.); Eltham and Chislehurst (C.F.); Keston and Hayes (W.B.); Eltham (A.H.J.).

5. LACHNEIDES.

Pœcilocampa populi, L.—Local.—Bexley dist. (L.W.N.); Bromley, Erith (C.F.); Lee (G.B.B.); Crofton Park and Orpington (W.B.); gas-lamps Eltham (A.H.J.).

Trichiura cratægi, L.—Local.—Blackheath, once (W.W.); few at light nr. Eltham (C.F.).

Lachneis lanestris, L.—Distributed, but not common.—Kidbrook, Burnt Ash Lane, Dartford, Brent, etc. (W.W.); Bexley dist., abundant some years (L.W N.); Little Darenth, Wilmington (C.F.).

Malacosoma neustria, L.—Generally distributed.—Westcombe Park, Blackheath, Lewisham, etc. (J.W.T.); Lee (W.W.); Bexley dist., abundant (L.W.N.); Greenwich (R.A.); Southend, Catford (A.R.); a pest in orchards at Farnborough (H.A.); Eltham (A.H.J.); Lee, Charlton, abundant formerly (C.F.).

Macrothylacia rubi, L.—Local.—Shooter's Hill (W.W.); Dartford Heath (C.F.); Keston (W.B.); Eltham, formerly common (A.H.J.).

Lasiocampa quercûs, L.—Generally distributed.—Westcombe Park, etc. (J,W.T.); Lee, Kidbrook (W.W.); Bexley dist. (L.W.N.); occurs generally but not commonly in south and east of district; formerly at Lee, Lewisham, Catford, Bromley and Eltham (C.F.); Hither Green (F.W.C.); Knockholt (W.B.); Eltham (A.H.J.).

Cosmotric hepotatoria, L.—Locally common.—Kidbrook Lane, Burnt Ash Lane, etc. (W.W.); Bexley dist., common (L.W.N.); Lee, Bromley and Eltham (C.F.); no recent records for Lewisham (R.A.); Farnborough (H.A.).

Eutricha quercifolia, L.—Local.—Kidbrook, Dartford (W.W.); Bexley dist., common (L.W.N.); Bexley, Dartford and Orpington (C.F.); Farnborough, scarce (H.A.); formerly common at Eltham, now disappeared (A.H.J.).

6. LITHOSIIDES.

Nudaria senex, Hb.—Local, in marshy places.—Lee pit (a sallow swamp at the top of Manor Farm) (W.W.); disappeared from here soon after 1878 (R.A.).

Nudaria mundana, L.—Local.—Blackheath (on fences) (W.W.); Hither Green, formerly abundant, and Eltham (C.F.).

Calligenia miniata, Forst.—Local, in woods.—West Wood, Shooter's Hill (W.W.); Bexley district (L.W.N.); Erith Woods (C.F.); Hayes (W.B.); Farnborough (H.A.); Abbey Wood and Sidcup (A.H.J.).

Lithosia aureola, Hb.—Local.—Darenth Wood (W.W.); Joyden's Wood, Birch Wood (C.F.); Bromley (H.A.)

Lithosia lurideola, Zinck.—Local.—Kidbrook Lane, Burnt Ash Lane (W.W.); Bexley dist. (L.W.N.); Lee, Lewisham and Eltham, but not recently (C.F.); Paul's Cray (G.B.B.); Hayes (H.A.).

Lithosia complana, L.—Local.—Bexley dist., rare (L.W.N.); not scarce at Bostall Heath, Plumstead Common, Dartford Heath, Paul's Cray Common (C.F.); Morden College, Blackheath (H.E.P.); Abbey Wood and Chislehurst (A.H.J.).

Lithosia mesomella, L.—Local.—Bexley dist. (L.W.N.); Paul's Cray (G.B.B.); Chislehurst (A.H.J.); Paul's Cray Common (C.F.).

Lithosia griseola, Hb.—Common at Eltham Swamp (C.F.); Mr. A. H. Jones notes that all the Lithosiids have long since disappeared from the Eltham district owing to the destruction of all lichens by soot.

Gnophria rubricollis, L.—Local.—Shooter's Hill (W.W.); formerly occurred in most of woods of dist. (C.F.).

7. EUCHELIIDES.

Euchelia jacobææ, L.—Generally distributed but not common, outside the London dist.—Brockley, Lee, Lewisham, etc. (W.W.); Bexley dist. (L.W.N.); Farnborough (H.A.); Beckenham (W.S.B.).

8. ARCTIIDES.

Arctia caia, L.—Generally distributed.—Greenwich, Lee, etc. (W.W.); Westcombe Park, Blackheath, Shooter's Hill, etc. (J.W.T.); Lewisham, Lower Sydenham (A.M. Cochrane); Bexley dist. (L.W.N.); Bexley, Orpington (C.F.); Southend, Catford (A.R.); Hither Green (F.W.C.); Farnborough (W.B.).

Arctia villica, L.—Very local.—Plumstead, Manor Farm Lane, Lee (W.W.); Bexley dist., sometimes common (L.W.N.); George Lane, Lewisham, Shooter's Hill (C.F.); Plumstead (H.E.P.); Farnborough (H.A.); Bostall Wood (A.H.J.)

Euthemonia russula, L.—Local.—Bexley dist. (L.W.N.); Paul's Cray Common (C.F.); Keston (W.B.).

Phragmatobia fuliginosa, L.—Local.—Brockley (W.W.); Bexley dist., occasional (L.W.N.); at light, Lewisham, Charlton and Eltham (C.F.); Keston (W.B.).

Spilosoma mendica, Clerck.—Local.—Lee (W.W.); Bexley dist., common (L.W.N.); Halfway Street, Bexley, Chislehurst and Orpington (C.F.); one only at Lewisham, 1880 (R.A.); Shooter's Hill Road (A.H.J.); Beckenham, rare (W.S.B.).

Spilosoma urticæ, Esp.—Local, confined to marshy localities.—Plumstead Marshes, Lewisham (W.W.); Bexley dist. (L.W.N.); Erith and Dartford marshes (C.F.); one at Bromley, 1900 (H.A.); Farnborough and W. Wickham (Bromley List).

Spilosoma menthastri, Esp.—Abundant throughout, especially in gardens.—Westcombe Park, Blackheath, etc. (J.W.T.); Lewisham, Lee, Hither Green, Lower Sydenham, etc. (A.M. Cochrane); Southend, Catford (A.R.); Farnborough (W.B.); Eltham (A.H.J.); Beckenham (W.S.B.).

Spilosoma lubricipeda, Esp.—Abundant throughout, especially in gardens.—Westcombe Park, etc. (J.W.T.); Lewisham, Lee, Hither Green, Lower Sydenham, etc. (A.M. Cochrane); Southend, Catford (A.R.); Keston (W.B.); Eltham (A.H.J.); Beckenham (W.S.B.).

9. LYMANTRIIDES.

Porthesia similis, Fues. (**auriflua**, Fb.).—Generally distributed.—Greenwich Marshes. Westcombe Park, Blackheath, Shooter's Hill, Plumstead, etc. (J.W.T.); Lewisham (A.M. Cochrane); Lee (W.W.); Bexley dist. (L.W.N.); not so abundant as formerly, Sidcup, Halfway Street (C.F.); Southend, Catford (A.R.); Hither Green (F.W.C.); Farnborough (H.A.); Eltham (A.H.J.); Beckenham (W.S.B.).

Leucoma salicis, L.—Local.—Blackheath (W.W.); Bexley dist. (L.W.N.); Lee (Green); Plumstead (H.E.P.); one only, 1867, at Lewisham (R.A.); Farnborough (W.B.); Eltham, occasionally at light (A.H.J.); Beckenham (W.S.B.); Grove Park (C.F.)

Dasychira pudibunda, L.—Generally distributed, but not common.—Shooter's Hill Woods, Kidbrook, Lee, etc. (W.W.); Bexley dist. (L.W.N.); Farnborough (H.A.); Eltham formerly (A.H.J.); Beckenham (W.S.B.); Abbey Wood, Erith (C.F.).

Dasychira fascelina, L.—Rare.—2 larvæ Farnborough, 1903 (H.A.).

Notolophus antiqua, L.—Abundant throughout.—Westcombe Park, Greenwich, etc. (J.W.T.); Lewisham, Hither Green, etc (A.M. Cochrane); Bexley dist. (L.W.N.); Lee (Green); Greenwich (H.E.P.); Southend, Catford (A.R.); Hither Green (F.W.C.); Farnborough (H.A.); Eltham (A.H.J.); Beckenham (W.S.B.); Burnt Ash (C.F.).

Demas coryli, L.—Local.—Bexley dist. (L.W.N.).

10. DREPANULIDES.

Cilix spinula, Schiff.—Generally distributed.—Westcombe Park, Plumstead (J.W.T.); Bexley dist., common (L.W.N.); Kidbrook (H.E.P.); Lee, Lewisham and Greenwich Marshes (R.A.); in gardens at Lee (G.B.B.); Keston (W.B.); Bromley (B.W.A.); Beckenham (W.S.B.); Eltham, common (A.H.J.).

Drepana lacertula, Schiff.—Local.—Bexley dist., common (L.W.N.); Paul's Cray (R.A.); Chislehurst (F.W.C.); Farnborough, Keston (W.B.); Shooter's Hill (A.H.J.); Paul's Cray, Erith (C.F.).

Drepana falcula, Schiff.—Local.—Bexley dist., abundant (L.W.N.); Lee (R.A.); Chislehurst (F.W.C.); Farnborough (H.A.); Shooter's Hill (A.H.J.); Paul's Cray Common, Erith (C.F.).

Drepana hamula, Esp.—Local.—Bexley dist., rare (L.W.N.); Chislehurst (F.W.C.); Farnborough (W.B.); Eltham, not uncommon at light (A.H.J.); Erith, Grove Park (C.F.).

11. NOTODONTIDES.

Cerura furcula, L.—Local.—Blackheath, Forest Hill, Lee, Lewisham (W.W.); Bexley dist. (L.W.N.); scarce, Farnborough Keston (W.B.); Eltham, rare (A.H.J.).

Cerura bifida, Hb.—Local.—Blackheath (W.W.); Bexley dist., common (L.W.N.); rare at Lewisham (R.A.); Chislehurst (G.B.B.); one at Farnborough, 1896 (W.B.); Lee and Blackheath (B.W.A.); Greenwich, palings nr. Park, formerly, Mottingham (A.H.J.); Bexley Woods (C.F.).

Cerura vinula, L.—Generally distributed.—Westcombe Park, Greenwich, Blackheath, etc. (J.W.T.); Lewisham (A.M. Cochrane); Brockley, Greenwich Marshes (W.W.); Bexley dist., common (L.W.N.); Southend, Catford, (A.R.); Lee (G.B.B.); Farnborough (W.B.); Beckenham (W.S.B.); Charlton, Eltham, Mottingham (A.H.J.); Lee, Grove Park (C.F.).

Stauropus fagi, L.—Rare.—Farnborough 1900 (W.B.); Holwood Park (W.B. and Hewitt); W. Wickham (Bromley List); Shooter's Hill, one (A.H.J.); Joyden's Wood (C.F.).

Ptilodontis palpina, L.—Local.—Blackheath (W.W.); Bexley dist., common (L.W.N.); one only, 1883, Lewisham (R.A.); Paul's Cray (G.B.B.); Farnborough dist. (W.B.); Lee and Blackheath (B.W.A.); Eltham, frequent at light (A.H.J.).

Lophopteryx camelina, L.—Generally distributed.—Westcombe Park, Shooter's Hill, etc. (J.W.T.); Kidbrook, Lee, etc. (W.W.); Bexley dist., abundant (L.W.N.); Southend, Catford Farnborough (W.B.); Beckenham (W.S.B.); Eltham, at light (A.H.J.); Paul's Cray Common (C.F.).

Lophopteryx carmelita, Esp.—Scarce.—Bexley dist. (L.W.N.); W. Wickham (Bromley List); Paul's Cray, one larva (A.H.J.).

Leiocampa dictæa, L.—Local.—Greenwich Park, Lee (W.W.); Bexley dist., common (L.W.N.); Lewisham, rare (R.A.); a few at Keston, Bromley (A.B.); Chislehurst, Crays and Farnborough (H.A.); Beckenham (W.S.B.); Eltham, at light (A.H.J.).

Leiocampa dictæoides, Esp.—Local.—Lee (W.W.); Bexley dist., fairly common (L.W.N.); Dartford Heath (R.A.); Hayes (H.A.); Beckenham (W.S.B.); Eltham, at light (A.H.J.); Paul's Cray Common (C.F.).

Notodonta dromedarius, L.—Generally distributed.—Shooter's Hill, etc. (W.W.); Bexley dist. (L.W.N.); Paul's Cray (G.B.B.); W. Wickham (Bromley List); Eltham, at light (A.H.J.).

Notodonta ziczac, L.—Generally distributed.—Shooter's Hill, Westcombe Park, etc. (J.W.T.); Abbey Wood, Dartford (W.W.); Bexley dist. (L.W.N.); Lewisham (R.A.); Paul's Cray (G.B.B.); Farnborough (W.B.); Eltham, rare (A.H.J.).

Ptilophora plumigera, Esp.—Scarce.—Blackheath (W.W.).

Peridea trepida, Esp.—Scarce.—Bexley dist. (L.W.N.); Eltham, not rare at light (A.H.J.); W. Wickham (C.F.).

Drymonia chaonia, Hb.—Scarce.—Bexley dist. (L.W.N.); one at light at Lee (G.B.B.); one specimen, Keston, 1900 (H.A.); Eltham, occasionally (A.H.J.); Black Fen, Horn Park (C.F.).

Drymonia dodonea, Hb.—Scarce.—Bexley dist. (L.W.N.); W. Wickham (Bromley List); Eltham, one, 1875, at light (A.H.J.).

Clostera curtula, L.—Local.—Shooter's Hill (W.W.); Bexley dist., common (C.F.); Holwood (H.A.); Keston (W.B.); palings near Greenwich Park, formerly, Mottingham (A.H.J.).

Clostera reclusa, Fb.—Local.—Shooter's Hill (W.W.); Bexley dist., rare (L.W.N.); formerly very common on aspens at Bexley (A.H.J.).

Pygæra bucephala, L.—Generally distributed and abundant.—Greenwich, Westcombe Park, Blackheath, etc. (J.W.T.); Lewisham, Lower Sydenham (A.M. Cochrane); Bexley dist. (L.W.N.); Greenwich (H.E.P.); Southend, Catford (A.R); Hither Green (F.W.C.); Farnborough (H.A.); Beckenham (W.S.B.); Eltham, common as larva (A.H.J.); Burnt Ash, abundant (C.F.).

Diloba cæruleocephala, L.—Generally distributed.—Lee, Lewisham (W.W.); Bexley dist., common (L.W.N.); Paul's Cray (G.B.B.); Farnborough dist., common (H.A.); Eltham, common formerly at light (A.H.J.).

12. NOCTUIDES.

CYMATOPHORIDÆ.

Thyatira batis, L.—Generally distributed throughout the district.—Shooter's Hill Woods, Westcombe Park, etc. (J.W.T.); Burnt Ash, Kidbrook, Plumstead (W.W.); Bexley dist., rare (L.W.N.); Southend (A.R.); Paul's Cray Common (G.B.B.); Erith, Joyden's Wood (C.F.).

Gonophora derasa, L.—Generally distributed, sometimes common.—Westcombe Park, Shooter's Hill, etc. (J.W.T.); Plumstead, Burnt Ash, Kidbrook (W.W.); Bexley dist., abundant (L.W.N.); Paul's Cray (G.B.B.); Southend (A.R.); Erith, Chislehurst (C.F.); Eltham (A.H.J.); Greenwich Park (R.A.); Beckenham, rare (W.S.B.).

Cymatophora ocularis, Gn.—Scarce.—Bexley dist. (L.W.N.).

Cymatophora or, Fb.—Local.—Bexley dist. (L.W.N.); Shooter's Hill (C.F.); Eltham (A.H.J.).

Cymatophora duplaris, L.—Local.—Bexley dist. (L.W.N.); Chislehurst, Halfway Street (C.F.); Paul's Cray (G.B.B.); Eltham (A.H.J.).

Cymatophora fluctuosa, Hb.—Local.—Dartford dist. (J.W.T.); Bexley dist. (L.W.N.); Shooter's Hill Wood, Eltham, at light (A.H.J.).

Asphalia diluta, Fb.—Local.—Bexley dist. (L.W.N.); Orpington dist. (H.A.); Paul's Cray (G.B.B.); Chislehurst, Joyden's Wood, Erith (C.F.); Eltham (A.H.J.); Beckenham (W.S.B.).

Asphalia flavicornis, L.—Local, but more generally distributed.—Bexley dist., common (L.W.N.); Dartford Heath, Joyden's Wood (C.F.); Paul's Cray Common (G.B.B.).

BRYOPHILIDÆ.

Bryophila perla, Fb.—Local.—Occurs generally in Farnborough district, but is scarce (H.A.); Bexley (L.W.N.); Southend (A.R.); Grove Park (F.W.C.); Lewisham and Blackheath (B.W.A.); Greenwich Park wall (H.E.P.); Eltham (A.H.J.); Beckenham (W.S.B.); Lee, Lewisham (C.F.).

BOMBYCOIDÆ.

Bisulcia ligustri, Fb —Local.—Generally scarce, but occasionally in fair numbers at Farnborough, Holwood (H.A.); Lee (G.B.B.); Shooter's Hill, Joyden's Wood, and Halfway Street (C.F.); Bexley (L.W.N.).

Cuspidia aceris, L.—Distributed.—Westcombe Park, Blackheath, Lewisham (J.W.T.); Farnborough, St. Paul's Cray and Keston (W.B.); Lee, Eltham, Charlton (C.F.); Bexley (L.W.N.); Southend, Catford (A.R.); Greenwich (W.W.); Beckenham (W.S.B.).

Cuspidia leporina, L.—Local.—Found generally at Farnborough, but sparingly; also at St. Paul's Cray and Keston (W.B.); Chislehurst (G.B.B.); Bexley (L.W.N.); Shooter's Hill (C.F.); Bromley district (B.W.A.); Plumstead (W.W.); Beckenham (W.S.B.).

Cuspidia megacephala, Fb.—Generally distributed and common among poplars.—Westcombe Park, Shooter's Hill, Lewisham, etc. (J.W.T.); Farnborough (W.B.); Bexley (L.W.N.); Southend, Catford (A.R.); Blackheath (B.W.A.); Eltham (A.H.J.); Lee, Greenwich (W.W.); Beckenham (W.S.B.); Bromley (Ent.); larvæ common everywhere (C.F.).

Cuspidia tridens, Schiff.—Local.—Sparingly at Farnborough (W.B.); Southend, Catford (A.R.); Eltham (A.H.J.); Lee (W.W.); Lewisham (C.F.).

Cuspidia psi, L.—Generally distributed.—Westcombe Park, Shooter's Hill, Blackheath, Grove Park dist., etc. (J.W.T.); Farnborough, common (W.B.); Bexley (L.W.N.); Southend, Catford (A.R.); Hither Green (F.W.C.); Eltham (A.H.J.); Lewisham (R.A.); Chislehurst (H.J.T.).

Viminia rumicis, L.—Scarce.—Greenwich Marshes (J.W.T.); Erith Marshes, Charlton (C.F.); Eltham (A.H.J.); Shooter's Hill (W.W.).

LEUCANIIDÆ.

Leucania conigera, Fb.—Distributed.—Greenwich, Blackheath, etc. (J.W.T.); common at Farnborough (W.B.); Lee (G.B.B.); Lewisham and Blackheath (B.W.A.); Eltham (A.H.J.); Dartford dist., common (C.F.).

Leucania lithargyria, Esp.—Distributed.—Greenwich, Westcombe Park (J.W.T.); very common at Farnborough (W.B.); Bexley (L.W.N.); Shooter's Hill (A.H.J.); Lewisham (R.A.); Kidbrook (W.W.); Bromley (Ent.); Lee (C.F.).

Leucania obsoleta, Hb.—Brockley (W.W.).

Leucania pudorina, Hb.—Local.—Paul's Cray Common (A.H.J. & C.F.).

Leucania comma, L.—Distributed.—Greenwich, Westcombe Park, Lewisham (J.W.T.); common at Farnborough (W.B.); Southend, Catford (A.R.); Eltham (B.W.A.); Lee (W.W.); Shooter's Hill, Erith (C.F.).

Leucania straminea, Tr.—Local.—Thames Marshes from Plumstead to Erith (J.W.T.); Greenwich Marshes formerly (H.E.P. & J.W.T.).

Leucania impura, Hb.—Generally distributed.—Greenwich, Westcombe Park, Shooter's Hill, Grove Park (J.W.T.); common at Farnborough (W.B.); Lee (G.B.B.); Bexley(L.W.N.); Southend, Catford (A.R.); Hither Green (F.W.C.); Eltham (B.W.A.); Greenwich Marshes (H.E.P.); Lewisham (R.A.); Kidbrook (W.W.); Beckenham (W.S.B.); Bromley (Ent.); Lee (C.F.).

Leucania pallens, L.—Generally distributed.—Greenwich, Westcombe Park, Blackheath, Shooter's Hill, Plumstead (J.W.T.); common at Farnborough (W.B.); Bexley (L.W.N.); Shooter's Hill (H.E.P.); Southend, Catford (A.R.); Eltham (B.W.A.); Lewisham (R.A.); Kidbrook (W.W.); Beckenham (W.S.B.); Erith (C.F.).

Leucania phragmitidis, Hb.—Local.—Thames Marshes from Greenwich to Erith (J.W.T.); Abbey Wood (C.F.).

Tapinostola fulva, Hb.—Local.—Holwood, but scarce since 1903 (W.B.); Paul's Cray (G.B.B.); formerly abundant at Lee swamp (C.F.); Eltham (A.H.J.); Lee (W.W.); Bromley (Ent.).

Chortodes arcuosa, Haw.—Local.—Kidbrook, formerly (W.W.); Lee, Eltham, Chislehurst (C.F.); Farnborough (W.B.).

Cœnobia rufa, Haw.—Very local.—Formerly at Lee swamp (A.H.J. & C.F.).

Nonagria arundinis, Fb.—Very local.—Occurred commonly at Lewisham up to 1877, ground since built over (R.A.); Brockley (W.W.).

Calamia lutosa, Hb.—Local.—Abundant on the Thames Marshes, including the Greenwich Marshes (J.W.T.); at light at Lee and Eltham (C.F.); Bexley (L.W.N.);. Bromley (Ent.).

APAMEIDÆ.

Gortyna ochracea, Hb.—Distributed.—Greenwich Marshes, Thames Marshes below Plumstead (J.W.T.); common in larval stage at Farnborough (W.B.); Charlton (C.F.); Bexley (L.W.N.); Lewisham (R.A.).

Hydrœcia nictitans, Bork.—Local.—Greenwich, Westcombe Park, etc. (J.W.T.); abundant at Farnborough (H.A.); common at Lee (G.B.B.); Southend, Catford (A.R.); Lewisham (R.A.); Kidbrook (W.W.); Burnt Ash (C.F.).

Hydrœcia micacea, Esp.—Local.—Westcombe Park, very common on waste ground; Greenwich Marshes, etc. (J.W.T.); fairly abundant at Farnborough (W.B.); Lee and Lewisham (C.F.); Bexley (L.W.N.); Hither Green (F.W.C.); Lewisham district (R.A.); Eltham (A.H.J.); Brockley (W.W.); Bromley (Ent.); Beckenham (W.S.B.).

Helotropha leucostigma, Hb.—Very local.—Greenwich Marshes (J.W.T.); Abbey Wood (A.H.J.).

Axylia putris, L.—Distributed, but not common.—Westcombe Park, Greenwich, etc. (J.W.T.); scarce of late years at Farnborough (W.B.); Bexley (L.W.N.); Lewisham dist. (B.W.A.); Eltham and Greenwich Marshes (A.H.J.); Plumstead, Blackheath (W.W.); Beckenham (W.S.B.); Abbey Wood, Erith (C.F.).

Xylophasia polyodon, Linn.—Common throughout area.—Greenwich and all the S.E. suburban dist. (J.W.T.); Farnborough (W.B.); Bexley (L.W.N.); Lee and Eltham dist. (C.F.); Southend, Catford (A.R.); Hither Green (F.W.C.); Lewisham dist. (R.A.); Blackheath, Kidbrook (W.W.); Bromley (Ent.).

Xylophasia lithoxylea, Fb.—Generally distributed.—Greenwich and all the S.E. suburban dist. (J.W.T.); plentiful in Farnborough dist. (W.B.); Bexley (L.W.N.); Lee dist. (C.F.); Southend, Catford (A.R.); Bromley (B.W.A.); Lewisham (R.A.); Shooter's Hill (A.H.J.); Blackheath, Kidbrook (W.W.); Beckenham (W.S.B.).

Xylophasia sublustris, Esp.—Scarce.—Farnborough (H.A.).

Xylophasia rurea, Fb.—Local.—Westcombe Park, etc. (J.W.T.); abundant at Farnborough (W.B.); Eltham dist. (C.F.); Bexley (L.W.N.); Shooter's Hill (A.H.J.).

Xylophasia hepatica, L.—Local.—Westcombe Park, Plumstead (J.W.T.); Farnborough, Crofton and Orpington (W.B.); Keston (H.A.); Bexley and Shooter's Hill (C.F.).

Xylophasia scolopacina, Esp.—Local.—Bexley (L.W.N.); one at Lewisham 1860 (C.F.).

Dipterygia scabriuscula, L. — Distributed. — Westcombe Park, Lewisham, etc., abundant (J.W.T.); common in Farnborough dist. (W.B.); Bexley (L.W.N.); Shooter's Hill (H.E.P.); Lee (G.B.B.); Abbey Wood, Erith, Eltham (C.F.); Bromley (B.W.A.); Lewisham (R.A.); Blackheath (W.W.).

Neuronia popularis, Fb.—Generally distributed.—Farnborough dist. abundant (W.B.); Bexley (L.W.N.); Eltham (S.R.A.); Blackheath, Lee (W.W.); Bromley (Ent.).

Neuria reticulata, Vill.— Rare.— One at Green Street Green (Hewitt); 2 at Farnborough 1898 (H.A.); occasionally at Bexley (L.W.N.); Lee (W.W.); Bexley (L.W.N.); Joyden's Wood (C.F.)

Charæas graminis, L.—Local.—Bexley dist., abundant (L W.N.); Farnborough, scarce (H.A.); Dartford Heath and Paul's Cray Common (C.F.).

Cerigo matura, Hufn.— Local. — Farnborough (W.B.); Keston (Hewitt); Bexley (L.W.N.); Lewisham up to 1879 (R.A.); Eltham (A.H.J.); Lee (W.W.); Bromley (Ent.); Lee (C.F.).

Apamea basilinea, Fb.—Distributed.—Greenwich, Westcombe Park, Shooter's Hill, abundant (J.W.T.); plentiful at Farnborough (W.B.); Keston (H.A.); Bexley (L.W.N.); Lee (C.F.); Hither Green (F.W.C.); Lewisham (R.A.); Beckenham (W.S.B.).

Apamea ophiogramma, Esp.—Very local.—Greenwich, Westcombe Park, Blackheath, etc. (J.W.T.); larvæ generally plentiful in ribbon-grass in gardens; Farnborough (W.B.); Bexley (L.W.N.); Lee (G.B.B.); Lee, common (C.F.).

Apamea gemina, Hb.—Generally distributed.—Occasionally found in all the woods in area (C.F.); Westcombe Park (J.W.T.); Farnborough (H.A.); Bexley (L.W.N.); Lee, Eltham and Blackheath (C.F.); Greenwich, Lewisham (W.W.).

Apamea unanimis, Tr. — Rare. — Greenwich, Westcombe Park (J.W.T.); one only at Lewisham 1882 (R.A.); Mottingham (C.F.).

Apamea didyma, Esp.—Common and generally distributed.— Greenwich, Westcombe Park, etc., abundant (J.W.T.); Farnborough (H.A.); Lee (C.F.); Bexley (L.W.N.); Southend, Catford (A.R.); Hither Green (F.W.C.); Lewisham dist. (R.A.); Eltham (A.H.J.); Bromley (Ent.).

Miana strigilis, Clerck.—Generally abundant.—Greenwich, Westcombe Park, and all S.E. suburban area, the black and dark aberrations most abundant (J.W.T.); extreme colour variation in Farnborough dist. (W.B.); Lee (C.F.); Bexley (L.W.N.); Southend, Catford (A.R.); Eltham (B.W.A.); Lewisham (R.A.); Greenwich Marshes (A.H.J.); Bromley (Ent.).

Miana bicoloria, Vill.—Generally distributed and abundant.—Greenwich, Lee, Lewisham (W.W.); Westcombe Park (J.W.T.); Bexley (L.W.N.); Greenwich Marshes (R.A.); Chislehurst (C.F.).

Miana fasciuncula, Haw. — Generally distributed. — Westcombe Park (J.W.T.); Bexley (L.W.N.); Lee (C.F.); Holwood Park (W.B.); Hither Green (F.W.C.); Eltham (B.W.A.); Lewisham (R.A.); Greenwich Marshes (A.H.J.); Lee (W.W.); Bromley (Ent.).

Miana literosa, Haw. — Distributed. — Lee (C.F.); Farnborough (H.A.); Eltham (A.H.J.).

Celæna haworthii, Curt.—Local.—Abbey Wood (B.W.A.).

Mamestra abjecta, Hb.—Rare.—Thames' Marshes (J.W.T.); Greenwich Marshes, formerly (C.F.).

Mamestra sordida, Bork.—Formerly generally distributed, now rare.—Greenwich Marshes (C.F.); Bexley (L.W.N.); Blackheath, Woodside (W.W.).

Mamestra brassicæ, L.—Most abundant everywhere.

Mamestra persicariæ, L.—Generally distributed and abundant.—Westcombe Park, Blackheath, etc. (J.W.T.); Lewisham (A.M. Cochrane); Lee, abundant (C.F.); Bexley (L.W.N.); Farnborough (H.A.); Southend, Catford (A.R.); Hither Green (F.W.C.); in gardens at Lewisham (R.A.); Beckenham (W.S.B.).

Luperina cespitis, Fb. — Local. — Farnborough (H.A.); Keston (Hewitt); Bexley (L.W.N.); Eltham, one at light in 1870 (A.H.J.); Chislehurst (C.F.).

Luperina testacea, Hb.—Distributed.—Westcombe Park, Greenwich, etc. (J.W.T.); Farnborough (H.A.); Bexley dist. (L.W.N.); Lee dist. (G.B.B.); Lewisham (R.A.); Eltham (A.H.J.); Blackheath (W.W.); Bromley (Ent.); Dartford Heath, abundant, Erith, Mottingham, Chislehurst (C.F.).

Grammesia trigrammica, Hufn.—Generally distributed and not uncommon.—Lee (C.F.); Bexley (L.W.N.); Farnborough (W.B.); Shooter's Hill (A.H.J.); Burnt Ash, Blackheath, Kidbrook (W.W.); Bromley (Ent.).

Laphygma exigua, Hb.—Rare and uncertain, only an immigrant in Britain.—Bexley (L.W.N.); Hither Green, 1862 (W.W.); ditto, one at sallows (C.F.); Greenwich 1884 (J.W.T.)

CARADRINIDÆ.

Caradrina morpheus, Hufn.—Generally distributed.—Greenwich, Westcombe Park, Blackheath, Lewisham, etc. (J.W.T.); Lee, very abundant (C.F.); Farnborough (H.A.); Bexley (L.W.N.); Hither Green (F.W.C.); Lewisham dist. (R.A.); Eltham (A.H.J.).

Caradrina alsines, Brahm.—Local.—Westcombe Park, Greenwich (J.W.T.); common at Lee and Bexley (C.F.); Farnborough (H.A.); Hither Green (F.W.C.); Greenwich Marshes (R.A.); Eltham (A.H.J.); Lewisham, Blackheath (W.W.).

Caradrina taraxaci, Hb.—Local.—Greenwich (J.W.T.); Farnborough (W.B.); Eltham, Bexley, Paul's Cray Common (C.F.); Hither Green (F.W.C.); Lee, Lewisham, Blackheath (W.W.).

Caradrina quadripunctata, Fb.—Generally distrbuted.—Greenwich, Westcombe Park, etc. (J.W.T.); Lee (C.F.); Farnborough (W.B.); (Bexley (L.W.N.); Southend, Catford (A.R.); Eltham (S.R.A.); Lewisham (R.A.); Blackheath (W.W.).

Rusina tenebrosa, Hb.—Distributed.—In most of woods in area (C.F.); Shooter's Hill, etc. (J.W.T.); Farnborough, Crofton (W.B.); Bexley (L.W.N.); Paul's Cray (G.B.B.); Lee (R.A.).

NOCTUIDÆ.

Peridroma ypsilon, Rott. (**suffusa,** Hb.).—Generally distributed.—Greenwich (J.W.T.); Bexley (L.W.N.); Farnborough, Keston and Bromley (H.A.); Lee, Eltham, Mottingham, Dartford Marshes (C.F.); Southend, Catford (A.R.); Shooter's Hill (A.H.J.); Chislehurst (G.B.B.).

Peridroma saucia, Hb.—Distributed.—Lee (C.F.); Bexley (L.W.N.); Farnborough dist. (W.B.); Southend, Catford (A.R.); one only at Lewisham, 1878 (R.A.); Shooter's Hill (A.H.J.)

Agrotis segetum, Schiff.—In abundance everywhere.—Blackheath (W.W.); Beckenham (W.S.B.), etc.

Agrotis nigricans, L.—Local.—Thames' Marshes, abounds in market-gardens near, Westcombe Park, etc. (J.W.T.); Greenwich Marshes (C.F.; Farnborough (H.A.); Bexley (L.W.N.); Hither Green (F.W.C.); Lewisham dist. (B.W.A.); Eltham (A.H.J.).

Agrotis tritici, L.—Local.—Bostall Heath, Dartford Heath and Paul's Cray Common (C.F.); Farnborough (H.A.); ab. **aquilina**, Eltham, Abbey Wood (A.H.J.); Lee, Greenwich Marshes, Bostall Heath (C.F.).

Agrotis agathina, Dup.—Very scarce.—Bostall Heath and Chislehurst (C.F.); Keston, 4 specimens, 1906 (W.B.); Abbey Wood (A.H.J.).

Agrotis corticea, Hb.—Rare.—One specimen taken in house at Lewisham (R.A.); one specimen at rest on Greenwich Hospital (A.H.J.); Lee, Kidbrook (W.W.).

Agrotis exclamationis, L.—Generally distributed and everywhere abundant. — Blackheath (W.W.); Beckenham (W.S.B.); Bromley (Ent.), etc.

Agrotis puta, Hb.—Distributed.—Thames' Marshes, Greenwich, Westcombe Park, etc. (J.W.T.); Lee and Eltham (C.F.); Bexley (L.W.N.); common at Farnborough (H.A.); Lewisham (R.A.); Shooter's Hill (A.H.J.); Plumstead, Blackheath (W.W.); Beckenham (W.S.B.).

Lycophotia strigula, Thnb.—Distributed.—Paul's Cray Common and Dartford (C.F.); Holwood (H.A.); Bexley (L.W.N.); Abbey Wood (A.H.J.).

Triphæna interjecta, Hb.—Local.—Farnborough (H.A.); nr. Dartford (C.F.); Bexley (L.W.N.); Eltham (A.H.J.); Lee, Lewisham, Kidbrook (W.W.); Beckenham (W.S.B.).

Triphæna janthina, Esp.—Generally distributed.—Lee (C.F.); Bexley (L.W.N.); Farnborough (W.B.); Paul's Cray (G.B.B.); Hither Green (F.W.C.); Lewisham dist. (R.A.); Eltham (A.H.J.); Burnt Ash, Kidbrook (W.W.); Beckenham (W.S.B.); Bromley (Ent.).

Triphæna fimbria, L.—Distributed and common in larval stage.—Erith, Joyden's and Birch Woods, Halfway Street, nr. Dartford (C.F.); Shooter's Hill (H.E.P.); Bexley (L.W.N.); Farnborough (H.A.); Paul's Cray (G.B.B.); Eltham (A.H.J.); Beckenham (W.S.B.).

Triphæna orbona, Hufn.—Generally distributed and common.—Greenwich, Westcombe Park, etc., abundant (J.W.T.); Lee (C.F.); Bexley (L.W.N.); Farnborough H.A.); Paul's Cray (G.B.B.); Southend, Catford (A.R.); Lewisham (R.A.); Eltham (A.H.J.); Kidbrook (W.W.); Beckenham (W.S.B.).

Triphæna pronuba, L.—Extremely abundant everywhere.

Graphiphora augur, Fb.—Generally distributed.—Greenwich, Westcombe Park, etc. (J.W.T.); Shooter's Hill (C.F.); Farnborough (H.A.); Bexley (L.W.A.); Southend, Catford (A.R.); Hither Green (F.W.C.); Lewisham dist. (R.A.); Eltham (A.H.J.); Lee (W.W.).

Noctua baia, Fb.—Generally distributed.—Shooter's Hill, Westcombe Park (J.W.T.); Lee, etc., common in larval stage (C.F.); Farnborough (H.A.); Bexley (L.W.N.); Paul's Cray (G.B.B.); Eltham (A.H.J.); Greenwich (W.W.).

Noctua glareosa, Esp.—Local.—Dartford and Bostall Heaths (C.F.); Farnborough and Keston (H.A.); Paul's Cray (G.B.B.); Shooter's Hill (A.H.J.).

Noctua triangulum, Hufn.—Generally distributed and common in larval stage.—Lee (C.F.); Bexley (L. W.N.); Farnborough (H.A.); Paul's Cray (G.B.B.); Hither Green (F.W.C.); Lewisham dist. (R.A.); Eltham (A.H.J.).

Noctua c-nigrum, L.—Generally distributed.—Greenwich, Westcombe Park, common; Blackheath dist. (J.W.T.); common at Farnborough(H.A.); Bexley (L.W.N.); Lee (C.F.); Paul's Cray (G.B.B.); Southend, Catford (A.R.).; Lewisham (R.A.); Eltham (A.H.J.); Bromley (Ent.).

Noctua neglecta, Hb.—Local and scarce.—Bexley (L.W.N.); W. Wickham (Hewitt).

Noctua brunnea, Fb.—Generally distributed.—Westcombe Park (J.W.T.); Lee (C.F.); Farnborough (W.B.); Bexley (L.W.N.); Paul's Cray (G.B.B.); Eltham (B.W.A.); Shooter's Hill (W.W.).

Noctua festiva, Hb. –Generally distributed and common.—Westcombe Park, Blackheath (J.W.T.); Farnborough (H.A.); Shooter's Hill (H.E.P.); Bexley (L.W.N.); Paul's Cray (G.B.B.); Eltham (A.H.J.); an aberration nr. **conflua,** Eltham (A.H.J.); Bromley (Ent.); Halfway Street, Joyden's Wood (C.F.).

Noctua dahlii, Hb.—Shooter's Hill (W.W.).

Noctua rubi, View.—Distributed.—Greenwich, Westcombe Park, Shooter's Hill, abundant (J.W.T.); Lee and Eltham (C.F.); Bexley (L.W.N.); Holwood (W.B.); Lewisham up to 1879 (R.A.); Bromley (Ent.).

Noctua umbrosa, Hb.—Local.—Lee swamp, formerly (C.F.); at Lee, at sugar (G.B.B.); Eltham (A.H.J.); Shooter's Hill (W.W.).

Noctua xanthographa, Fb.—Generally distributed and in great abundance.

Noctua rhomboidea, Tr.—Local.—Abbey Wood and Joyden's Wood (C.F.); Farnborough (H.A.); Bexley (A.H.J.).

Noctua plecta, L.—Generally distributed.—Greenwich, Westcombe Park, etc. (J.W.T.); Shooter's Hill (H.E.P.); Farnborough (H.A.); Bexley (L.W.N.); Paul's Cray (G.B.B.); Southend, Catford (A.R.); Lewisham (R.A.); Lee, Blackheath (W.W.); Burnt Ash (C.F.).

ORTHOSIIDÆ.

Panolis piniperda, Panz.—Local.—Bostall Wood, Halfway Street, and Dartford Heath fence (C.F.); Farnborough, Down and Keston (H.A.); Bexley (L.W.N.); Paul's Cray (G.B.B.).

Pachnobia rubricosa, Fb.—Local.—Farnborough (H.A.); Bexley (L.W.N.); Lee, Shooter's Hill and Eltham (C.F.); Paul's Cray (G.B.B.); Kidbrook, Plumstead (W.W.).

Tæniocampa munda, Esp.—Distributed.—Farnborough, Orpington and Keston (W.B.); Eltham (C.F.); Bexley (L.W.N.); Paul's Cray (G.B.B.); Dartford (W.W.).

Tæniocampa instabilis, Esp.—Generally distributed; common in larval stage.—Westcombe Park (J.W.T.); Lee (C.F.); Farnborough (W.B.); Bexley (L.W.N.); Paul's Cray (G.B.B.); Southend, Catford (A.R.); Lewisham up to 1893 (R.A.); Eltham (A.H.J.); Greenwich (W.W.).

Tæniocampa gracilis, Fb.—Local.—Eltham and Bexley, Lee (C.F.); Farnborough (H.A.); Keston and Crofton (W.B.); Paul's Cray (G.B.B.); Eltham (A.H.J.); Dartford (W.W.); Beckenham (W.S.B.).

Tæniocampa populeti, Fb.—Distributed.—Bexley (L.W.N.); Farnborough (H.A.); Orpington (W.B.); Paul's Cray (G.B.B.); Eltham (A.H.J.); Dartford (W.W.); Halfway Street, Bexley, abundant (C.F.).

Tæniocampa gothica, L.—Generally distributed and common.—Westcombe Park (J.W.T.); Lee (C.F.); Farnborough (W.B.); Bexley (L.W.N.); Paul's Cray (G.B.B.); Southend, Catford (A.R.); Chislehurst (F.W.C.); Lewisham up to 1892 (R.A.); Eltham (A.H.J.); Blackheath (W.W.).

Tæniocampa stabilis, View.—Generally distributed and abundant.—Westcombe Park (J.W.T.); Farnborough (W.B.); Bexley (L.W.N.); Southend, Catford (A.R.); Chislehurst (F.W.C.); Lewisham up to 1889 (R.A.); Eltham (A.H.J.); Dartford (W.W.); Beckenham (W.S.B.).

Tæniocampa pulverulenta, Esp.—Generally distributed and abundant.—Bexley (L.W.N.); Farnborough (H.A.); Eltham (C.F.); Paul's Cray (G.B.B.); Chislehurst (F.W.C.); Lewisham (R.A.); Eltham (A.H.J.); Dartford (W.W.).

Tæniocampa miniosa, Fb.—Local and scarce.—Bexley (L.W.N.); Halfway Street (C.F.); Farnborough (W.B.); Eltham (A.H.J.); Dartford (W.W.).

Dyschorista fissipuncta, Haw. (**upsilon,** Bork.).—Local.—Thames' Marshes, etc., among old willows (J.W.T.); Blackheath (W.W.); Ab. **variegata,** Tutt, Greenwich Marsh (J.W.T.).

Dyschorista suspecta, Hb.—Local.—Chislehurst, common (C.F.); Holwood (H.A.); Lee (G.B.B.); Paul's Cray (B.W.A.).

Orthesia lota, Clerck.—Generally distributed.—Westcombe Park (J.W.T.); Farnborough (H.A.); Bexley (L.W.N.); Paul's Cray Common (G.B.B.); Southend, Catford (A.R.); Joyden's Wood (S.R.A.); Bromley and Lewisham (R.A.); Eltham (A.H.J.); Lee pit (W.W.); larvæ common Hither Green (C.F.).

Orthosia macilenta, Hb. — Distributed. — Farnborough (H.A.); Bexley, Orpington, (C.F.); Paul's Cray Common (H.E.P.); Lewisham, 1867 (R.A.); Eltham (A.H.J.); Lee pit (W.W.).

Anchocelis pistacina, Fb.—Generally distributed and common.—Westcombe Park (J.W.T.); Farnborough (H.A.); Bexley (L.W.N.); Paul's Cray (G.B.B.); Southend, Catford (A.R.); Eltham (S.R.A.); Chislehurst (F.W.C.); Lewisham (R.A.); Lee pit (W.W.); Beckenham (W.S.B.); Joyden's Wood (C.F.).

Anchocelis lunosa, Haw.—Generally distributed and abundant.—Lee, Charlton, Blackheath, and Eltham (C.F.); Farnborough (H.A.); Bexley (L.W.N.); Chislehurst dist. at sugar and light (G.B.B.); Southend, Catford (A.R.); Lewisham (R.A.); Beckenham (W.S.B.).

Anchocelis litura, L.—Generally distributed.—Bexley and Joyden's Woods (C.F.); Bexley dist. (L.W.N.); Farnborough (W.B.); Chislehurst dist. (G.B.B.); Southend, Catford (A.R.); Plumstead (R.A.); Eltham (A.H.J.); Lee pit (W.W.).

Anchocelis rufina, L.—Local.—Farnborough (H.A.); Joyden's and Bexley Woods (C.F.); Paul's Cray (G.B.B.); Eltham (A.H.J.); Lee pit (W.W.).

Orrhodia vaccinii, L.—Generally distributed and common.—Paul's Cray Common (H.E.P.); Farnborough (W.B.); Bexley (L.W.N.); Chislehurst dist. (G.B.B.); Southend, Catford (A.R.); Keston, Joyden's Wood, Eltham (S.R.A.); Lewisham, Bromley (R.A.); Lee pit (W.W.).

Orrhodia ligula, Esp.—Distributed.—Erith Woods (C.F.); Farnborough (W.B.); Bexley (L.W.N.); Joyden's Wood (S.R.A.); Lewisham and Bromley (R.A.); Eltham (A.H.J.); Lee pit (W.W.); Chislehurst (Ent.).

Scopelosoma satellitia, L.—Generally distributed.—Farnborough (W.B.); Bexley (L.W.N.); Paul's Cray Common (G.B.B.); Joyden's Wood (S.R.A.); Bromley and Lewisham (R.A.); Eltham (A.H.J.); Lee pit (W.W.); Erith, abundant (C.F.).

Hoporina croceago, Fb.—Local and rare.—Halfway Street, Bexley and Chislehurst (C.F.); Farnborough H.A.); Eltham (A.H.J.).

Tiliacea citrago, L.—Generally distributed.—Farnborough (W.B.); Lee, Blackheath, Chislehurst (C.F.); Paul's Cray (G.B.B.); Southend, Catford (A.R.); Eltham (A.H.J.); Lee pit (W.W.).

Tiliacea aurago, Fb. — Very local. — Holwood (W.B.); Bexley (L.W.N.); formerly at Hither Green and Lee (C.F.); one in garden at Lee (G.B.B.).

Citria fulvago, L. — Distributed. — Holwood (H.A.); Bexley (L.W.N.); Paul's Cray (G.B.B.); Southend, Catford (A.R.); Lewisham in 1868 (R.A.); Eltham (A.H.J.); Lee pit (W.W.).

Citria flavago, Fb. — Local. — Erith and Joyden's Woods (C.F.); Farnborough (H.A.); Bexley (L.W.N.); Paul's Cray (G.B.B.); Chislehurst (F.W.C.); Eltham (A.H.J.); Lee pit (W.W.); Bromley (Ent.).

Mellinia gilvago, Esp. — Distributed. — Bexley (L.W.N.); Farnborough (H.A.); Crofton (W.B.); Paul's Cray (G.B.B.).

Mellinia circellaris, Hufn.—Generally distributed.—Paul's Cray Common (H.E.P.); Farnborough (H.A.); Bexley (L.W.N.); Joyden's Wood (S.R.A.); Eltham (A.H.J.); Lee pit (W.W.).

Cirrhœdia xerampelina, Hb.—Scarce.—One at Farnborough 1887 (H.A.); Charlton and Eltham (A.H.J.); Chislehurst (Ent.).

COSMIIDÆ.

Dicycla oo, L.—Very local.—Hayes by Bromley, Shooter's Hill and Joyden's Wood (C.F.); plentiful at Bromley in 1888 (H.A.); nr. Chislehurst (G.B.B.); Woolwich Common, one specimen 1865 (A.H.J.); Bromley (Ent.).

Plastenis retusa, L. — Rare. — Bexley (L.W.N.); Farnborough (H.A.); Eltham (A.H.J.).

Plastenis subtusa, Fb.—Distributed and not uncommon in larval stage.—Westcombe Park, Blackheath, Lewisham (J.W.T.); Lee, Eltham, Halfway Street and Black Fen (C.F.); Bexley (L.W.N.); Farnborough (H.A.); Bromley (Ent.).

Calymnia diffinis, L.—Local.—Eltham, Burnt Ash, Abbey Wood C.F.); Holwood (H.A.); Bexley (L.W.N.); Lee (G.B.B.); Lewisham (R.A.); Greenwich (W.W.).

Calymnia affinis, L.—Distributed.—Farnborough (W.B.); Lewisham, Lee and Eltham (C.F.); Bexley (L.W.N.); Lee (G.B.B.); Greenwich (W.W.); Bromley (Ent.).

Calymnia trapezina, L.—Generally distributed and abundant.—Westcombe Park, Shooter's Hill (J.W.T.); Farnborough (H.A.); Bexley (L.W.N.); Paul's Cray (G.B.B.); Chislehurst (F.W.C.); Lewisham 1867 (R.A.); Eltham (A.H.J.); Lee, Greenwich (W.W.); Bromley (Ent.); Joyden's Wood (C.F.).

HADENIDÆ.

Eremobia ochroleuca, Esp.—Very rare.—Cudham 1885 (Ent.).

Dianthœcia carpophaga, Bork.—Occasionally taken at Farnborough (H.A.); Greenwich (W.W.).

Dianthœcia capsincola, Hb.—Generally distributed and formerly abundant.—Greenwich (in gardens on Sweet William), Westcombe Park, Blackheath, Lewisham, etc. (J.W.T.); Farnborough (W.B.); Bexley (L.W.N.); Lewisham and Sidcup (R.A.); Eltham (A.H.J.); Lee (C.F.).

Dianthœcia cucubali, Fues.—Distributed.—Bexley (L.W.N.); Farnborough (H.A.); Lee (G.B.B.); Eltham (A.H.J.); Greenwich (J.W.T.); Lewisham, formerly (C.F.).

Dianthœcia conspersa, Esp.—Local and very scarce.—Bexley and Dartford Heath (C.F.); Bexley (L.W.N.).

Dianthœcia chrysozona, Bork.—Very local.—Nr. Dartford (C.F.).

Dianthœcia serena, Fb. — Generally distributed. — Plumstead (H.E.P.); Farnborough Keston and Down (W.B.); Bexley (L.W.N.); Southend, Catford (A.R.); Hither Green (F.W.C.); Lewisham dist. (R.A.); Charlton (A.H.J.); Blackheath (W.W.); Lee, Grove Pk., larvæ abundant (C.F.).

Polia flavicincta, Fb.—Generally distributed.—Eltham and Erith (C.F.); Bexley (L.W.N.); Sidcup (G.B.B.); Eltham (A.H.J.); Shooter's Hill, Blackheath (W.W.).

Cleoceris viminalis, Fb.—Generally distributed and not rare in the larval stage.—Bexley (L.W.N.) ; Paul's Cray Common (G.B.B.) ; Eltham (A.H.J.) ; Lee, Hither Green, Halfway Street, larvæ common (C.F.).

Epunda lutulenta, Bork.—Local.—Holwood (W.B.) ; Dartford Heath and Chislehurst (C.F.) ; Greenwich Marshes (W.W.).

Miselia oxyacanthæ, L.—Generally distributed.—Erith and Dartford districts (C.F.) ; Farnborough (W.B.) ; Bexley (L.W.N.) ; Paul's Cray (G.B.B.) ; Southend, Catford (A.R.) ; Keston, Joyden's Wood, Eltham (S.R.A.) ; Hither Green (F.W.C.) ; one only in 1900 at Lewisham (R.A.) ; Kidbrook, Burnt Ash (W.W.) ; Beckenham (W.S.B.).

Dichonia aprilina, L.—Local.—Orpington (W.B.) ; Bexley and Eltham (C.F.).

Brotolomia meticulosa, L.—Generally distributed and numerous.—Westcombe Park, Blackheath, Lewisham, etc., abundant (J.W.T.) ; Shooter's Hill (H.E.P.) ; Farnborough (H.A.) ; Bexley (L.W.N.) ; Paul's Cray (G.B.B.) ; Southend, Catford (A.R.) ; Keston (S.R.A.) ; Hither Green (F.W.C.) ; Lewisham dist. (R.A.) ; Eltham (A.H.J.) ; Blackheath, Lee, Greenwich (W.W.) ; Beckenham (W.S.B.) ; Bromley (Ent.).

Euplexia lucipara, L.—Generally distributed.—Westcombe Park, Blackheath, etc. (J.W.T.) ; Lewisham (A.M.Cochrane) ; Farnborough (H.A.) ; Shooter's Hill (H.E.P.) ; Bexley (L.W.N.) ; Paul's Cray (G.B.B.) ; Southend, Catford (A.R.) ; Hither Green (F.W.C.) ; Eltham (A.H.J.) ; Beckenham (W.S.B.) ; Lee (C.F.).

Aplecta prasina, Fb.—Local.—Farnborough, Wickham, Keston (W.B.) ; Bexley (C.F.) ; Crown Woods, Shooter's Hill (W.W.).

Aplecta nebulosa, Hufn.—Generally distributed and common.—Farnborough (H.A.) ; Bexley (L.W.N.) ; Paul's Cray (G.B.B.) ; Eltham (A.H.J.) ; Blackheath, Lee (W.W.) ; Beckenham (W.S.B.) ; Joyden's Wood (C.F.).

Aplecta tincta, Brahm.—Local.—Farnborough (H.A.) ; Paul's Cray and West Wickham (W.B.) ; Crown Woods, Shooter's Hill (W.W.) ; Chislehurst, commonly (C.F.).

Aplecta advena, Fb. — Local. — Bexley (L.W.N.) ; Farnborough (H.A.) ; Shooter's Hill (A.H.J.) ; Hither Green, formerly (C.F.).

Hadena adusta, Esp.—Local and scarce.—Farnborough (H.A.) ; Eltham (A.H.J.).

Hadena protea, Bork.—Distributed.—Farnborough (W.B.); Bexley (L.W.N.); Joyden's Wood (C.F.); Paul's Cray (G.B.B.); Eltham (A.H.J.); Shooter's Hill (W.W.).

Hadena dentina, Esp.—Local.—Westcombe Park (J.W.T.); occasionally Paul's Cray (G.B.B.); Bexley (L.W.N.); Lewisham, rarely (R.A.); Eltham (A.H.J.); Blackheath, Greenwich, Lee (W.W.); Erith (C.F.).

Hadena trifolii, Rott.—Generally distributed.—Westcombe Park, Blackheath, Greenwich, Lewisham, abundant (J.W.T.); Chelsfield, Orpington, Down (W.B.); formerly Lee and Greenwich Marshes (C.F.); Bexley (L.W.N.); Paul's Cray (G.B.B.).

Hadena dissimilis, Knoch.—Local.—Lee at light, occasionally (C.F.).

Hadena oleracea, L.—Generally distributed and most abundant.—Westcombe Park, Greenwich, Lewisham, very common (J.W.T.); Bexley (L.W.N.); Farnborough (H.A.); Paul's Cray (G.B B.); Southend, Catford (A.R.); Hither Green (F.W.C.); Lewisham dist. (R.A.); Eltham (A.H.J.); Beckenham (W.S.B.).

Hadena pisi, L.—Generally distributed.—Plumstead (H.E.P.); Farnborough, Keston (W.B.); Bexley (L.W.N.); Paul's Cray (G.B.B.); Eltham (A.H.J.); Beckenham (W.S.G.); Abbey Wood, Erith (C.F.).

Hadena genistæ, Bork.—Distributed.—Bexley (L.W.N.); Westcombe Park, Erith and Dartford Heath (C.F.); Holwood, Hayes, Orpington (W.B.); Charlton and Chislehurst (A.H.J.); Greenwich Park (W.W.).

Hadena thalassina, Rott.—Distributed but never common.—Shooter's Hill (J.W.T.); Bexley (L.W.N.); Farnborough (W.B.); Eltham (S.R.A.); Lewisham and Lee (W.W.); Grove Park, Bromley (C.F.).

Hadena contigua, Vill.—Rare.—Shooter's Hill and Joyden's Wood, formerly (C.F.); Bexley and Eltham (A.H.J.); Blackheath (W.W.).

GONOPTERYGIDÆ.

Scoliopteryx libatrix, L.—Generally distributed.—Westcombe Park (J.W.T.); Shooter's Hill (H.E.P.); Farnborough (W.B.); Bexley (L.W.N.); Paul's Cray (G.B.B.); Lee and Lewisham (R.A.); Eltham (A.H.J.); Bromley (Ent.).

XYLINIDÆ.

Xylocampa areola, Esp.—Generally distributed, but not so common as formerly.—Hayes Common (G.B.B.); Bexley (L.W.N.); Chislehurst (A.H.J.); Lee, Blackheath (W.W.); Beckenham (W.S.B.); Erith, Abbey Wood, Belvedere (C F.).

Xylomiges conspicillaris, L.—Rare.—Formerly Darenth Wood (H.T.S.).

Ornithopus rhizolitha, Fb.—Rare.—Bexley (L.W.N.); odd specimens at Farnborough (W.B.).

Ornithopus semibrunnea, Haw.—Rare.—One specimen 1894 at Farnborough (H.A.); W. Wickham (W.B.); once at Erith in 1884 (C.F.); Lewisham and Charlton on ivy (R.A.); Eltham (A.H.J.).

Calocampa vetusta, Hb.—Rare.—At Erith in 1884 (C.F.); Bexley (L.W.N.).

Calocampa exoleta, L.—Rare.—Occasionally at Eltham and once at Lee (C.F.); one at Paul's Cray (G.B.B.); Shooter's Hill (A.H.J.).

Asteroscopus cassinea, Hb.—Very local.—Bromley Common (H.A.) Bexley (L.W.N.); Lee, Eltham, at light, scarce (C.F.).

Cucullia verbasci, L. — Distributed. — Hayes (W.B.); Bexley (L.W.N.); at light at Lee and Eltham (C.F.); larvæ in garden at Eltham (A.H.J.); Kidbrook (W.W.).

Cucullia chamomillæ, Schiff.—Distributed, but uncertain in appearance.—Hither Green (Hewitt); Lee, Eltham, Dartford, often abundant in larval state (C.F.); Bexley (L.W.N.); Lewisham (R.A.); Kidbrook, Greenwich Park (W.W.).

Cucullia asteris, Schiff.—Rare and local.—Larvæ Shooter's Hill (A.H.J.); West Wood (W.W.).

Cucullia umbratica, L.—Generally but sparingly distributed.—Farnborough (H.A.); Eltham, Lee and nr. Dartford Heath (C.F.); Bexley (L.W.N.); Kidbrook, Greenwich (W.W.).

HELIOTHIDÆ.

Chariclea umbra, Hufn.—Rare.—Holwood (W.B.); formerly at Joyden's Wood (C.F.).

Heliothis arbuti, Fb.—Local, but fairly numerous.—Farnborough (H.A.); Eltham, Halfway Street and Bexley (C.F.); formerly common in Kidbrook, Lee and Brockley (W.W.).

Heliothis peltigera, Schiff.—Rare.—One recorded taken in garden at Lee, June 4th, 1904 (C.F.).

Anarta myrtilli, L.—Local and not plentiful.—Keston, Hayes Common (H.A.); Paul's Cray Common (C.F.); Bexley (L.W.N.); Abbey Wood and Chislehurst (A.H.J.).

ACONTIIDÆ.

Acontia luctuosa, Esp.—Local.—Bexley (L.W.N.); one at light at Lee 1887 (C.F.); Farnborough (W.B.); Green Street Green (Hewitt); near Shoreham (G.B.B.); Beckenham (Ent.).

PLUSIIDÆ.

Abrostola triplasia, L.—Local.—Westcombe Park (J.W.T.); Farnborough (H.A.); Southend, Catford (A.R.); Hither Green (F.W.C.); Lewisham dist. (R.A.); Eltham (A.H.J.); Burnt Ash (W.W.); Beckenham (W.S.B.); Lee, common (C.F.).

Abrostola tripartita, Hufn.—Rare.—Occurs sparingly at Farnborough (W.B.); Lee (G.B.B.); Eltham (A.H.J.); Burnt Ash (W.W.); Beckenham (W.S.B.); Lewisham, formerly common (C.F.).

Plusia moneta, Fb.—Now generally distributed; larvæ feed on *Aconitum* and *Delphinium* in gardens.—Westcombe Park, Lewisham (J.W.T.); Farnborough (W.B.); Bexley (L.W.N.); Lee (G.B.B.); Southend, Catford (A.R.); Eltham (A.H.J.); Beckenham, plentiful (W.S.B.); Sidcup, common (C.F.).

Plusia chrysitis, L. — Generally distributed. — Westcombe Park, Shooter's Hill (J.W.T.); Farnborough (H.A.); Bexley (L.W.N.); Lee (G.B.B.); Greenwich and Lewisham (R.A.); Eltham (A.H.J); Kidbrook, Burnt Ash (W.W.); Beckenham (W.S.B.); Grove Pk. (C.F.).

Plusia festucæ, L.—Very local.—Rather scarce at Eltham (A.H.J.); Abbey Wood Marshes (C.F.).

Plusia iota, L. — Distributed. — Farnborough (W.B.); Bexley (L.W.N.); Eltham (A.H.J.); Kidbrook, Lee, Lewisham (W.W.); Burnt Ash (C.F.).

Plusia gamma, L. — In certain years very abundant everywhere (J.W.T., etc.).

Plusia pulchrina, Haw.—Distributed, but not common.—Bexley (L.W.N.); Farnborough, Orpington (W.B.).

AMPHIPYRIDÆ.

Amphipyra pyramidea, L.—Distributed.—Bexley (L.W.N.); Farnborough (H.A.); Paul's Cray (G.B.B.); Eltham (B.W.A.); Lewisham in 1867–68 (R.A.); Bromley (Ent.); Bexley, Joyden's Wood, abundant (C.F.).

Amphipyra tragopogonis, L.—Distributed.—Abundant at Farnborough (H.A.); Bexley (L.W.N.); Paul's Cray (G.B.B.); Southend, Catford (A.R.); Lewisham (R.A.); Eltham (A.H.J.); Kidbrook, Lee (W.W.); Bromley (Ent.); Burnt Ash (C.F.).

Mania maura, L.—Distributed. — Westcombe Park, occasionally (J.W.T.); Bexley (L.W.N.); Farnborough (H.A.); Lee (G.B.B.); Southend, Catford (A.R.); Lewisham (R.A.); Eltham (A.H.J.); Kidbrook (W.W.); Beckenham (W.S.B.); Halfway Street, Black Fen (C.F.).

Nænia typica, L.—Generally distributed.—In gardens at Westcombe Park (H.E.P.); Farnborough (H.A.); Bexley (L.W.N.); Lee (G.B.B.); Southend, Catford (A.R.); Hither Green (F.W.C.); Lewisham dist. (R.A.); Eltham (A.H.J.); Kidbrook (W.W.); Beckenham (W.S.B.); Burnt Ash, very abundant (C.F.).

TOXOCAMPIDÆ.

Toxocampa pastinum, Tr.—Very local.—Farnborough (H.A.).

CATOCALIDÆ.

Catocala fraxini, L.—One specimen taken at Holwood 1895 (H.A.).

Catocala nupta, L.—Generally distributed.—Westcombe Park, Blackheath, on fences, abundant (J.W.T.); Farnborough (H.A.); Bexley (L.W.N.); Lee (G.B.B.); Southend, Catford (A.R.); Lewisham (R.A.); Eltham (A.H.J.); Beckenham (W.S.B.); Bromley (Ent.); Burnt Ash, Chislehurst, Black Fen (C.F.).

Catocala sponsa, L.—Rare.—Blackheath 1887 (Dannatt); Bexley, once (C.F.).

EUCLIDIIDÆ.

Euclidia mi, Clerck.—Generally distributed.—Farnborough (H.A.); Bexley (L.W.N.); Charlton (A.H.J.); Brockley (W.W.); Paul's Cray Common (C.F.).

Euclidia glyphica, L.—Generally distributed.—Farnborough (W.B.); Bexley (L.W.N.); Brockley (W.W.).

POAPHILIDÆ.

Phytometra aenea, Hb.—Brockley (W.W.); Dartford Heath (C.F.).

13. BREPHIDES.

PHALÆNOIDÆ.

Brephos parthenias, L.—Distributed and not uncommon.—Holwood, Wickham, Down, Orpington (W.B.); Bexley (L.W.N.); Paul's Cray (G.B.B.); Chislehurst (C.F.

Brephos notha, Hb.—Formerly West Wood and Shooter's Hill (W.W.).

14. GEOMETRIDES.

URAPTERYGIDÆ.

Urapteryx sambucaria, L.—Abundant throughout, particularly in suburban gardens.—Westcombe Park, Blackheath, Lewisham, Plumstead, etc. (J.W.T.); Lee (W.W.); Bexley district, abundant (L.W.N.); Greenwich (H.E.P.); Eltham (A.H.J.); Lewisham (R.A.); Farnborough (W.B.); Burnt Ash, Halfway Street, Sidcup (C.F.).

ENNOMIDÆ.

Epione apiciaria, Schiff.—Distributed throughout marshy areas.—Greenwich Marshes, Plumstead Marshes, etc. (J.W.T.); Lee Pit (W.W.); Lewisham, Eltham, Erith, Slades Green (C.F.); Bexley district, abundant (L.W.N.); Farnborough (W.B.).

Rumia luteolata, L. (**cratægata,** L.).—Abundant throughout.—Westcombe Park, Blackheath, Charlton, Plumstead, Lewisham, etc. (J.W.T.); Lee, Greenwich (W.W.); Bexley district, common (L.W.N.); Kidbrook (H.E.P.); Eltham (A.H.J.); Farnborough (W.B.).

Venilia macularia, L.—Generally distributed in woods.—Shooter's Hill, Welling, etc. (J.W.T.); Lee, Dartford district, etc. (W.W.); Bexley district, abundant (L.W.N.); Bostall Wood (A.H.J.); Keston, Hayes, Farnborough, Orpington (W.B.).

Angerona prunaria, L.—Local.—Dartford district (W.W.); Bexley district, rare (L.W.N.); Eltham, Halfway-street (A.H.J.); Derrick Wood, Farnborough, 1893 (H.A.).

Metrocampa margaritaria, L.—Generally distributed.—Shooter's Hill, etc. (J.W.T.); Lee, Dartford district (W.W.); Bexley district, common (L.W.N.); Birch Wood and Bexley, common (Fenn); Eltham (A.H.J.); Farnborough (W.B.).

Ellopia prosapiaria, L.—Confined to pinewoods.—Charlton, Bostall Woods, formerly (C.F.); Farnborough, Down, Keston (W.B.).

Eurymene dolabraria, L.—Very local.—Shooter's Hill, Lee, Lewisham, Eltham, but recent records now wanted (C.F.); Dartford district (W.W.); Bexley district, rare (L.W.N.); Sidcup (A.H.J.); Farnborough, Keston, odd specimens (W.B.).

Pericallia syringaria, L.—Distributed but scarce.—Bexley district (L.W.N.); Joyden's Wood (C.F.); Eltham (A.H.J.); Farnborough, Bromley, few each year (W.B.).

Selenia bilunaria, Esp. (**illunaria,** Hb.).—Generally distributed.—Kidbrook, Plumstead, Burnt Ash Lane (W.W.); Bexley district abundant (L.W.N.); Eltham (A.H.J.); Farnborough, very common, July brood rare (W.B.); Paul's Cray Common, Hayes, Keston, Lewisham (H.J.T.); Lee, Hither Green (C.F.).

Selenia lunaria, Schiff.—Distributed but scarce.—Lee, Hither Green, Bexley, etc. (C.F.); Eltham (A.H.J.); Farnborough, rare (H.A.).

Selenia tetralunaria, Hufn. (**illustraria,** Hb.).—Local.—One specimen Chislehurst (A.H.J.); Eltham (C.F.); Bexley district, rare (L.W.N.).

Gonodontis bidentata, Clerck.—Generally distributed.—Bostall Wood etc. (C.F.); Bexley district, common (L.W.N.); Eltham (A.H.J.); Holwood, plentiful, Chelsfield (W.B.); Paul's Cray Common (H.J.T.); Beckenham (W.S.B.).

Crocallis elinguaria, L.—Generally distributed.—Westcombe Park, Shooter's Hill (J.W.T.); Kidbrook, Lee (W.W.); Bexley district, common (L.W.N.); Eltham (A.H.J.); Lewisham and Dartford Heath (R.A.); Farnborough (W.B.); Paul's Cray Common (H.J.T.); Beckenham (W.S.B.); Joyden's Wood, Sidcup (C.F.).

Ennomos alniaria, L. (**tiliaria,** Bork.).—Generally distributed.—Westcombe Park, etc. (J.W.T.); Lee, Greenwich, etc. (W.W.); Plumstead, Woolwich, Lee, Charlton, Blackheath, Eltham, Lewisham, Erith, etc. (C.F.); Bexley district, common (L.W.N.); Farnborough, Bromley, Orpington, Chislehurst (W.B.).

Ennomos erosaria, Bork.—Rare.—Blackheath (W.W.); Halfway Street, Eltham, Joyden's Wood (C.F.); Bexley district, rare (L.W.N.); Holwood, rare (W.B.).

Ennomos quercinaria, Hufn. (**angularia,** Bork.).—Generally distributed in gardens and woods.—Westcombe Park, Charlton, Blackheath, etc. (J.W.T.); Lee, Lewisham (W.W.); Eltham (C.F.); Bexley district, common (L.W.N.); Bromley, Bickley, a few (W.B.); Farnborough (H.A.).

Ennomos fuscantaria, Haw.—Generally distributed.—Westcombe Park, Lewisham, some years common, etc. (J.W.T.); Greenwich Park (W.W.); Charlton, Lee, Lewisham. Blackheath, Eltham, etc. (C.F.); Bexley district, rare (L.W.N.); Eltham A.H.J.); Bromley, Bickley, Paul's Cray, scarce (W.B.).

Himera pennaria, L.—Generally distributed.—Shooter's Hill, etc. (J.W.T.); Blackheath (W.W.); Chislehurst, Paul's Cray Common, Sidcup, Bexley (C.F.); St. Mary's Cray (H. E. P.); Farnborough (W.B.); Beckenham (W.S.B.).

AMPHIDASYDÆ.

Phigalia pedaria, Fb.—Generally distributed but never abundant.—Shooter's Hill Woods, etc. (J.W.T.); Kidbrook, Lee, Blackheath (W.W.); Bexley district, common (L.W.N.); Lewisham (R.A.); Farnborough, common, dark form very rare (W.B.); Paul's Cray Common (H.J.T.); Abbey Wood, Joyden's Wood, Erith (C.F.).

Nyssia hispidaria, Fb.—Very local.—Bexley district, rare (L.W.N.).

Biston hirtaria, Clerck.—Generally distributed, common on limes in gardens and main streets.—Westcombe Park, Greenwich, Blackheath, Lewisham, etc. (J.W.T.); Charlton, Lee, Eltham, etc. (C.F.); Bexley district, common (L.W.N.): Farnborough, rare (H.A.).

Amphidasys strataria, Hufn. (**prodromaria,** Schiff.). — Generally distributed.—Greenwich Park, etc. (J.W.T.); Blackheath (W.W.); Eltham, Lee, Orpington, Bromley (C.F.); Bexley district, common (L.W.N.); Farnborough, Down (W.B.); Beckenham (W.S.B.).

Amphidasys betularia, L. — Generally distributed. — Dartford district, Greenwich Park, etc. (J.W.T.); Blackheath, Kidbrook, Lee, Lewisham (W.W.); Bexley district, common (L.W.N.); Eltham (A.H.J.); Farnborough, common, no melanic forms (W.B.); Paul's Cray Common, Bromley (H.J.T.); Chislehurst, Lee, commonly (C.F.).

BOARMIIDÆ.

Hemerophila abruptaria, Thnb.—Generally distributed, sometimes abundant in parks and gardens.—Greenwich, Westcombe Park, Lewisham, Blackheath, etc. (J.W.T.); Charlton, Lee, Bromley, Erith, Eltham, etc. (C.F.); Bexley district, common (C.F.); Farnborough (W.B.).

Boarmia repandata, L.—Generally distributed.—Shooter's Hill, etc. (J.W.T.); Blackheath (W.W.); Bexley district, common (L.W.N.); Eltham (A.H.J.); Lewisham (R.A.); Farnborough, abundant (W.B.). Var. **conversaria,** Hb.—Rare.—Bexley district (L.W.N.).

Boarmia gemmaria, Brahm (**rhomboidaria,** Hb.).—Generally distributed and common.—Westcombe Park, Greenwich, Plumstead Marshes, Blackheath, Lewisham, etc. (J.W.T.); Lee, etc. (W.W.); Bexley district, common (L.W.N.); Eltham (A.H.J.); Farnborough (W.B.); everywhere abundant in gardens and at light (C.F.).

Boarmia roboraria, Schiff.—Local.—Shooter's Hill, West Wood (W.W.); Bexley Woods (C.F.); Bromley, 1887 (H.A.); Beckenham (W.S.B.).

Boarmia consortaria, Fb.—Local.—Bexley district (L.W.N.); Hayes, 1902 (H.A.); Wickham, Farnborough, 1901 (Hewitt).

Tephrosia bistortata, Goeze. (**crepuscularia,** Hb.).—Generally distributed.—Shooter's Hill, Blackheath, etc. (W.W.); Eltham, Farnborough, Bromley, common, etc. (C.F.); Bexley district, rare (L.W.N.); Lewisham, Paul's Cray (R.A.); Down, abundant and variable (W.B.); Beckenham (W.S.B.).

Tephrosia crepuscularia, Hb. (**biundularia,** Bork.).—Generally distributed.—Shooter's Hill, Welling, etc. (J.W.T.); Greenwich Park, West Wickham (W.W.); Chislehurst, Eltham, Orpington (C.F.); Bexley district, common (L.W.N.); Bromley (R.A.); Farnborough (W.B.).

Tephrosia consonaria, Hb.—Local.—Shooter's Hill, Wickham, Abbey Wood (W.W.).

Tephrosia luridata, Bork. (**extersaria,** Hb.).—Local.—Abbey Wood (W.W.); Bexley Woods (C.F.); Shooter's Hill Wood, formerly (A.H.J.); Holwood, 1906 (W.B.).

Tephrosia punctularia, Hb.—Generally distributed.—Shooter's Hill, etc. (J.W.T.); Crown Woods, Wickham (W.W.); Bexley district; common (L.W.N.); Eltham, common (A.H.J.); Farnborough, numerous (W.B.); Chislehurst (C.F.).

Gnophos obscuraria, Hb.—Local.—Brockley (W.W.).

GEOMETRIDÆ.

Pseudoterpna pruinata, Hufn. (**cytisaria,** Schiff.).—Generally distributed.—Shooter's Hill Wood, Blackheath, Lee, etc. (W.W.); Erith, Bostall Heath (C.F.); Bexley district, common (L.W.N.); Paul's Cray Common (A.H.J.); Farnborough, Keston, larvæ plentiful (W.B.).

Geometra papilionaria, L.—Generally distributed.—Shooter's Hill, Lee, Paul's Cray Common, etc. (C.F.); Wickham Wood, West Wood (W.W.); Bexley district, common (L.W.N.); Eltham, common at light and among alders (A.H.J.); Farnborough, Keston not common (W.B.).

Geometra vernaria, Hb.—Local.—Charlton, Plumstead, Bostall Wood (recent records now wanted), Joyden's Wood, Wilmington, Little Darenth, Birch Wood, etc. (C.F.); Dartford district (J.W.T.); Bexley District, common (L.W.N.); Green Street Green, Down, not common (W.B.); Beckenham, rare (W.S.B.).

Phorodesma pustulata, Hufn. (**bajularia,** Schiff.).—Generally distributed in oak woods.—Shooter's Hill, etc. (W.W.); Erith Woods, Chislehurst (recent records wanted) (C.F.); Bexley district, rare (L.W.N.); Holwood, fairly plentiful (W.B.).

Iodis lactearia, L.—Generally distributed.—Greenwich, Lewisham, Lee, etc. (W.W.); Bexley district (L.W.N.); Shooter's Hill (R.A.); Eltham, common (A.H.J.); Farnborough (W.B.).

EPHYRIDÆ.

Zonosoma porata, Fb.—Local in oak woods.—Shooter's Hill, etc. (W.W.); Bexley district (L.W.N.); Lee, Lewisham (R.A.); Derrick Wood, Farnborough, fairly plentiful (W.B.); Blackheath (C.F.).

Zonosoma punctaria, L.—Distributed.—Kidbrook, Lee, Dartford district (W.W.); Bexley Woods, Farnborough (C.F.); Bexley district (L.W.N.); Shooter's Hill (A.H.J.); Derrick Wood, Farnborough, fairly plentiful (W.B.); Beckenham (W.S.B.).

Zonosoma linearia, Hb. (**trilinearia,** Bork.).—Very local.—Farnborough (C.F.); Derrick Wood, not common (W.B.).

Zonosoma annulata, Schulz. (**omicronaria,** Hb.).—Local.—Dartford district (W.W.); Joyden's Wood (C.F.); Derrick Wood, fairly common (W.B.).

Zonosoma pendularia, Clerck.—Local in birch woods.—Wickham, Plumstead, etc. (W.W.); Bexley district, rare (L.W.N.); Shooter's Hill (A.H.J.); sparingly at Dartford Heath (R.A.); Derrick Wood, Farnborough, Keston, common (W.B.); Paul's Cray Common (C.F.).

ACIDALIIDÆ.

Asthena luteata, Schiff.—Local amongst maple.—West Wood, Dartford district (W.W.); Birch Wood, Joyden's Wood (C.F.); Eltham, scarce (A.H.J.); Green Street Green, Farnborough, 1905, rare (W.B.).

Asthena candidata, Schiff.—Generally distributed.—Shooter's Hill (J.W.T.); Lee, Lewisham, Kidbrook (W.W.); Bexley district common (L.W.N.); Eltham (A.H.J.); Farnborough, abundant (W.B.); Sidcup, Erith and Joyden's Woods, common (C.F.).

Asthena sylvata, Hb.—Rare.—Eltham, once (C.F.).

Eupisteria heparata, Haw.—Local amongst alders.—Near Black Fen and Halfway Street Woods (C.F.); Eltham (A.H.J.); Farnborough, 1906, plentiful (W.B.).

Acidalia dimidiata, Hufn. (**scutulata,** Bork.).—Generally distributed.—Westcombe Park, Blackheath, etc. (J.W.T.); Kidbrook, Lee, Dartford (W.W.); Bexley district, abundant (L.W.N.); Lewisham (R.A.); Eltham, common (A.H.J.); Farnborough, not common (W.B.).

Acidalia bisetata, Hufn.—Generally distributed.—Westcombe Park, Blackheath, etc. (J.W.T.); Kidbrook, Lee, Shooter's Hill (W.W.); Bexley district, abundant (L.W.N.); Eltham, common (A.H.J.); Farnborough, very common (W.B.); Joyden's Wood, abundant (C.F.).

Acidalia trigeminata, Haw.—Local.—Dartford district (W.W.); Grove Park, locally not rare (C.F.); Bexley district, common (L.W.N.); Eltham (A.H.J.); Lewisham (Hewitt).

Acidalia rusticata, Fb.—Local.—Slades Green, near Erith, particularly abundant 1877 (C.F.).

Acidalia interjectaria, Bdv.—Generally distributed.—Westcombe Park, Blackheath, Lewisham, etc. (J.W.T.); Lee (W.W.); Greenwich Marshes, Shooter's Hill, Eltham, Bexley, Dartford (C.F.).

Acidalia virgularia, Hb. (**incanaria,** Hb.).—Common throughout, and a quite suffused form in the metropolitan area.—Westcombe Park, Blackheath, Lee, Lewisham, etc. (J.W.T.); Bexley district, common (L.W.N.); Eltham, common (A.H.J.); Farnborough (W.B.); Lee, Grove Pk., Burnt Ash, abundant (C.F.).

Acidalia ornata, Scop.—Very local.—Dartford Heath (recent records wanted) (C.F.); Green Street Green, scarce (W.B.).

Acidalia marginepunctata, Gœze. (**promutata,** Gn.).—Distributed throughout.—Charlton, Lewisham, etc. (J.W.T.); Lee (C.F.); Bexley district, rare (L.W.N.); Eltham, not uncommon on gas-lamps (A.H.J.); Farnborough, scarce (H.A.).

Acidalia straminata, Tr.—Rare.—Paul's Cray Common (C.F.).

Acidalia subsericeata, Haw.—Local.—Shooter's Hill (recent records wanted) (C.F.); Eltham, Bexley, scarce (A.H.J.).

Acidalia immutata, L.—Local, confined to marshy districts.—Dartford Marshes (C.F.).

Acidalia remutaria, Hb.—Common throughout in woods.—Shooter's Hill, etc. (J.W.T.); Lee (W.W.); Bexley district, common (L.W.N.); Eltham (A.H.J.); Paul's Cray Common (H.J.T.); Farnborough, very common (W.B.); Joyden's Wood (C.F.).

Acidalia imitaria, Hb.—Distributed.—Kidbrook, Burnt Ash Lane, etc. (W.W.); Bexley district (C.F.); Eltham, common (A.H.J.); Farnborough, scarce (H.A.); Beckenham (W.S.B.).

Acidalia emutaria, Hb.—Local, confined to marshy districts.—Dartford Marshes (C.F.); Shirley (H.A.).

Acidalia aversata, L.—Common throughout.—Westcombe Park, Blackheath, Lewisham, etc. (J.W.T.); Lee (W.W.); Eltham, etc. (C.F.); Bexley district, abundant (L.W.N.); Farnborough, very common and variable (W.B.).

Acidalia inornata, Haw.—Thinly distributed.—Shooter's Hill, Joyden's, Pett's, Bexley, and Erith Woods, Paul's Cray Common, not scarce at sugar (C.F.).

Acidalia emarginata, L.—Generally distributed.—Kidbrook, Lee, Lewisham (W.W.); Eltham, Lewisham, Sidcup, near Dartford (C.F.); Bexley district, common (L.W.N.); Eltham (A.H.J.); Derrick Wood, 1887 (H.A.).

Timandra amataria, L.—Generally distributed.—Kidbrook, Burnt Ash Lane (W.W.); Bexley district, rare (L.W.N.); Lewisham formerly, but not seen for years (R.A.); Eltham (A.H.J.); Farnborough (W.B.); Shooter's Hill (C.F.).

CABERIDÆ.

Cabera pusaria, L.—Generally distributed.—Lee pit, Lewisham, Wickham Wood (ab. **rotundaria,** Haw.) (W.W.); Bexley district, abundant (L.W.N.); Eltham (A.H.J.); Farnborough, abundant (W.B.); Plumstead (H.J.T.).

Cabera exanthemata, Scop.—Distributed.—Lee pit, Lewisham (W.W.); Bexley district, abundant; Eltham, common (A.H.J.) Farnborough, very common (W.B.); Burnt Ash (C.F.).

Corycia temerata, Hb.—Local in woods.—West Wood, Dartford district (W.W.); Joyden's, Birch and Bexley Woods, Halfway Street (C.F.); Eltham, common (A.H.J.); Keston, Farnborough, Orpington, numerous (W.B.).

Corycia bimaculata, Fb. (**taminata,** Hb.).—Local.—Lee, Bostall Woods (recent records wanted) (C.F.); Bexley, formerly very common among wild cherry (A.H.J.); Farnborough, numerous (W.B.).

Aleucis pictaria, Curt.—Very local.—Dartford Heath (recent records wanted) (C.F.).

MACARIIDÆ.

Macaria alternata, Hb.—Scarce.—Bexley district, rare (L.W.N.).

Macaria notata, L.—Local.—Wickham Wood, Dartford district (W.W.); Paul's Cray Common (C.F.); Bexley district (L.W.N.) Shooter's Hill Wood, formerly (A.H.J.); Farnborough, scarce (W.B.); Beckenham (W.S.B.).

Macaria liturata, Clerck.—Local.—Among pines Wickham Wood (W.W.); Bostall Wood (recent records wanted) (C.F.); Down, Keston (W.B.).

Halia vauaria, L.—Common in gardens.—Westcombe Park, Blackheath, Lewisham (J.W.T.); Greenwich, Lee (W.W.); Bexley district (L.W.N.); Eltham, common (A.H.J.); Farnborough, in fruit-gardens (W.B.); Burnt Ash, abundant (C.F.).

FIDONIIDÆ.

Strenia clathrata, L.—Generally distributed.—Brockley railway bank to Forest Hill, Shooter's Hill, etc. (W.W.); Lee, Charlton, etc. (C.F.); Bexley district, common (L.W.N.); Farnborough (W.B.); Paul's Cray Common, Bostall Heath (H.J.T.).

Panagra petraria, Hb.—Local among bracken.—Shooter's Hill (J.W.T.); Wickham Wood (W.W.); Bexley district, common (L.W.N.); Chislehurst (R.A.); Eltham (A.H.J.); Holwood, Keston Common, etc. (W.B.); Plumstead (H.J.T.); Beckenham (W.S.B.); Erith (C.F.).

Numeria pulveraria, L.—Local.—Shooter's Hill, Lee (recent records wanted), Bexley, near Foot's Cray, Joyden's Wood (C.F.); Farnborough, larvæ plentiful, 1906 (W.B.).

Scodiona belgiaria, Hb.—Very local.—Paul's Cray Common (C.F.).

Fidonia atomaria, L.—Distributed.—Brockley, Dartford district (W.W.); Bexley district, common (L.W.N.); Farnborough, very common (W.B.); Paul's Cray Common, Bostall Woods, Hayes (H.J.T.); Erith (C.F.).

Bupalus piniaria, L.—Local.—Wickham, Dartford district (W.W.); Bostall Wood, Halfway Street (C.F.); Bexley district, common (L.W.N.); Keston Common, plentiful, 1906 (W.B.).

Minoa murinata, Scop. (**euphorbiata,** Fb.).—Local.—Wickham, Dartford district (W.W.); Abbey Wood (recent records wanted) (C.F.).

Aspilates ochreraria, Ross. (**citraria,** Hb.).—Local.—Charlton, Lee (C.F.); Dartford district (W.W.); Bexley district, common (L.W.N.).

Aspilates gilvaria, Fb.—Local.—Lee, singly (C.F.); Bexley district, rare (L.W.N.).

ZERENIDÆ.

Abraxas grossulariata, L.—Abundant throughout.

Abraxas sylvata, Scop. (**ulmata,** Fb.).—Local.—Abbey Wood (C.F. and W.W.); Down, 1891, one specimen (H.A.).

Ligdia adustata, Schiff.—Local.—Kidbrook, Burnt Ash, Dartford district (W.W.); Lee, Ruxley, near Foot's Cray (C.F.); Bexley district, common (L.W.N.); Eltham, common (A.H.J.); Farnborough, etc. (W.B.).

Lomaspilis marginata, L.—Distributed.—Greenwich marshes, etc. (J.W.T.); Halfway Street, abundant, Bexley district, common (C.F.); Sidcup (R.A.); Eltham, common (A.H.J.); Farnborough, etc. (W.B.).

LIGIIDÆ.

Pachycnemia hippocastanaria, Hb.—Very local and scarce.—Bostall Heath, once, Paul's Cray Common, once (C.F.).

HYBERNIIDÆ.

Hybernia rupicapraria, Hb.—Generally distributed on hawthorn hedges.—Kidbrook, etc. (W.W.); Bexley district, common, Lee, Burnt Ash (C.F.); formerly abundant at Lewisham, but hedges now cut down (R.A.); Eltham, common (A.H.J.); Crofton, Chelsfield, Farnborough (W.B.).

Hybernia leucophearia, Schiff.—Generally distributed in oak-woods.—Shooter's Hill etc. (J.W.T.); Bexley district (L.W.N.); Eltham, common (A.H.J.); Farnborough, etc., numerous forms (W.B.); Paul's Cray Common, Hayes, Keston (H.J.T.).

Hybernia aurantiaria, Esp.—Local.—Lee, Eltham, Blackheath, Paul's Cray Common, abundant (C.F.); Bexley district, common (L.W.N.); Farnborough, Bromley, a few each year (W.B.).

Hybernia marginaria, Bork. (**progemmaria,** Hb.).—Generally distributed in hawthorn hedges.—Kidbrook, Blackheath (W.W.); Bexley distributed (L.W.N.); Lewisham (R.A.); Eltham, common (A.H.J.); Farnborough, etc., pale type (W.B.); Paul's Cray Common (H.J.T.); Lee, common, pale and intermediate forms (C.F.).

Hybernia defoliaria, Clerck.—Generally distributed.—Blackheath, Westcombe Park, Lewisham, Kidbrook, etc. (J.W.T.); Greenwich, Lee (W.W.); Paul's Cray Common, Pett's Wood, abundant (C.F.); Bexley district, common (L.W.N.); Greenwich Park, Bromley, and Lee (R.A.); Eltham, common (A.H.J.); Farnborough, etc. (W.B.).

Anisopteryx æscularia, Schiff.—Generally distributed.—Shooter's Hill, Westcombe Park, Blackheath, etc. (J.W.T.); Greenwich (W.W.); Bexley district (L.W.N.); Greenwich Park (H.E.P.); Lewisham (R.A.); Eltham, common (A.H.J.); Farnborough, etc. (W.B.); Keston, Paul's Cray Common (H.J.T.); Lee (C.F.).

LARENTIIDÆ.

Cheimatobia brumata, L.—Abundant throughout.

Cheimatobia boreata, Hb.—Locally abundant.—Paul's Cray Common (C.F.); Bexley district (L.W.N.); Holwood, not common (W.B.).

Oporabia dilutata, Bork.—Generally distributed and common.—Westcombe Park, Blackheath, Lewisham, etc. (J.W.T.); Lee (W.W.); Bexley district (L.W.N.); Plumstead (R.A.); Eltham (A.H.J.); Farnborough, etc. (W.B.); Lee (C.F.).

Larentia didymata, L.—Local.—Shooter's Hill (W.W.); Foot's Cray, Halfway Street, Dartford Heath, etc. (C.F.); Bexley district, rare (L.W.N.); Eltham, formerly very common (A.H.J.); Farnborough, Holwood, etc., abundant (W.B.).

Larentia multistrigaria, Haw.—Local.—Paul's Cray Common, Dartford Heath, abundant (C.F.); Bexley district, common (L.W.N.); Keston, Wickham, fairly common (W.B.).

Larentia viridaria, Fb. (**pectinataria,** Fues.).—Generally distributed, but scarce.—Lee, Eltham, etc. (C.F.); Bexley district (L.W.N.); Eltham (A.H.J.); Farnborough, etc. (W.B.).

Larentia olivata, Bork.—Local.—Shooter's Hill, West Wood, Wickham (W.W.); near Dartford (C.F.); Bexley district, rare (L.W.N.); Eltham (A.H.J.).

Emmelesia alchemillata, L.—Scarce.—Eltham (A.H.J.).

Emmelesia affinitata, St.—Local.—Bostall Heath (no recent record) (C.F.); Eltham (A.H.J.).

Emmelesia albulata, Schiff.—Local, among yellow rattle.—Grove Park, Bexley (C.F.); Bexley district, abundant 1900 (L.W.N.).

Emmelesia decolorata, Hb.—Local.—Erith, common, 1884 (C.F.); Wickham, Dartford district (W.W.); Bexley district, common (L.W.N.); Eltham, common (A.H.J.); Green Street Green 1898, Farnborough 1904 (W.B.).

Emmelesia unifasciata, Haw.—Locally abundant wherever *Bartsia* grows.—Lee, Mottingham, Eltham, etc. (C.F.); Eltham, once at light (A.H J.).

Eupithecia venosata, Fb.—Local.—Erith (C.F.); Bexley district (L.W.N.); Farnborough, scarce (W.B.).

Eupithecia linariata, Fb.—Local, among toadflax.—Eltham, Lee, Blackheath, Grove Park, common (C.F.); Bexley district, common (L.W.N.); Sidcup (A.H.J.).

Eupithecia pulchellata, St.—Local.—Abbey Wood (W.W. & C.F.); Bexley district, common (L.W.N.); Lewisham (R.A.).

Eupithecia centaureata, Fb.—Generally distributed.—Westcombe Park, Greenwich, Blackheath, Lewisham (J.W.T.); Brockley (W.W.); Bexley district, common (L.W.N.); Green Street Green, scarce (W.B.); Lee, abundant (C.F.).

Eupithecia succenturiata, L.—Local.—Brockley (W.W.); Lee (C.F.); Bexley district, common (L.W.N.); Eltham, at light (A.H.J.); Farnborough, rare (W.B.).

Eupithecia subfulvata, Haw.—Local.—Plumstead (W.W.); Charlton, Lee, Eltham (C.F.); Bexley district, common (L.W.N.); Farnborough, not common 1904 (W.B.).

Eupithecia subumbrata, Gn.—Local.—Bexley district (L.W.N.).

Eupithecia plumbeolata, Haw.—Local.—Hayes 1901 (Hewitt).

Eupithecia nanata, Hb.—Local, on heaths.—Plumstead (W.W.); Dartford Heath, Paul's Cray Common (C.F.); Bexley district, abundant (L.W.N.); Farnborough, Keston Common (W.B.); Bostall Heath (H.J.T.).

Eupithecia subnotata, Hb.—Generally distributed among *Chenopodium.*—Greenwich Marshes, Plumstead Marshes, Westcombe Park (J.W.T.); Lee (C.F.); Bexley district, abundant (L.W.N.); Farnborough, occasionally (H.A.).

Eupithecia vulgata, Haw.—Abundant throughout.

Eupithecia absynthiata, Clerck.—Local.—Lee, etc. (C.F.); Bexley district (L.W.N.); Eltham (A.H.J.).

Eupithecia minutata, Gn.—Local.—Paul's Cray Common (C.F.); Bexley district (L.W.N.).

Eupithecia assimilata, Gn.—Local, chiefly in gardens.—Westcombe Park (J.W.T.); Greenwich (W.W.); Blackheath, Lee (C.F.); Bexley district (L.W.N.); Farnborough (W.B.).

Eupithecia tenuiata, Hb.—Local, among sallows.—Shooter's Hill (J.W.T.); Bexley district (L.W.N.).

Eupithecia lariciata, Frr.—Local, among firs.—Wickham (W.W.).

Eupithecia dodoneata, Gn.—Distributed.—George Lane, Hither Green Lane, formerly, Lee, Burnt Ash Lane, Plaistow, Eltham (C.F.); Kidbrook (W.W.).

Eupithecia abbreviata, St.—Generally distributed in oak woods.—Bexley district, common (L.W.N.); Eltham (A.H.J.); Farnborough (W.B.).

Eupithecia exiguata, Hb.—Generally distributed.—Blackheath (J.W.T.); Lewisham (C F.); Kidbrook, Wickham (W.W.); Bexley district (L.W.N.); Eltham (A.H.J.); Farnborough, common (W.B.).

Eupithecia sobrinata, Hb.—Local.—Blackheath (C.F.); Eltham (A.H.J.).

Eupithecia togata, Hb.—Local.—Bexley district (L.W.N.); Bromley Road, Burnt Ash, once (June 18th, 1861) (C.F.).

Eupithecia pumilata, Hb.—Generally distributed.—Westcombe Park (J.W.T.); Kidbrook (W.W.); Dartford Heath, Paul's Cray Common (C.F.).

Eupithecia coronata, Hb.—Sparingly distributed.—Shooter's Hill, Lee (W.W.); Dartford Heath (C.F.); Bexley district (L.W.N.); Lewisham (R.A.); Farnborough, scarce (W.B.).

Eupithecia rectangulata, L., and **ab. nigrosericeata,** Haw.—Generally distributed, in fruit gardens.—Westcombe Park, Blackheath, Lewisham, Plumstead, etc. (J.W.T.); Bexley district (L.W.N.); sparingly, Lee (R.A.); Eltham (A.H.J.); Farnborough, common, black form occasionally (W.B.); Burnt Ash, very abundant, chiefly dark and black forms (C.F.).

Eupithecia castigata, Hb.—Generally distributed.—Westcombe Park Blackheath, etc. (J.W.T.); Eltham (A.H.J.); Lewisham, Lee (C.F.); Wickham (W.W.); Bexley district, common (L.W.N.).

Eupithecia satyrata, Hb.—Fairly distributed.—Eltham (A.H.J.); Farnborough (W.B.).

Eupithecia isogrammaria, H.S.—Generally distributed.—Westcombe Park, common in gardens (J.W.T.); Dartford district (W.W.); Bexley district, common (L.W.N.); Farnborough, etc. (W.B.); Birch Wood (C.F.).

Eupithecia indigata, Hb.—Local.—Bostall Wood formerly, recent records wanted (C.F.).

Eupithecia albipunctata, Haw.—Local.—Lee, Halfway Street (C.F.); Farnborough 1890 (H.A.).

Eupithecia fraxinata, Crewe.—Local.—Lee (C.F.); Lewisham (R.A.); Eltham (A.H.J.); Farnborough (W.B.).

Eupithecia lariciata, Frr.—Local, among fir.—Wickham (W.W.); Down, very plentiful 1906 (W.B.).

Eupithecia virgaureata, Dbl.—Local.—Plumstead (W.W.); Lee (H.J.T.).

Eupithecia pusillata, Fb.—Local, among spruce,—Wickham (W.W.)

Lobophora sexalisata, Hb.—Local, among sallow.—Eltham (C.F.).

Lobophora halterata, Hufn. (**hexapterata,** Schiff).—Locally abundant.—Halfway Street (C.F.); Bexley district, common (L.W.N.); Eltham, among aspen (A.H.J.); Bromley, scarce (H.A.); Keston 1905 (W.B.).

Lobophora viretata, Hb.—Local.—Burnt Ash Lane, Lee (W.W.); Eltham, Dartford Heath (C.F.); Bexley district (L.W.N.); Farnborough 1901, one (Hewitt).

Lobophora carpinata, Bork. (**lobulata,** Hb.)—Local.—Shooter's Hill, West Wood, Dartford District, Halfway Street Woods, Dartford Heath (C.F.); Bexley district (L.W.N.); Eltham, woods (A.H.J.); Farnborough, scarce (W.B.).

Thera variata, Schiff.—Locally common among pines.—Wickham (W.W.); one only at Lee, 1867 (R.A.); Dartford Heath (A.H.J.); Farnborough, very variable (W.B.); Bostall Heath, Charlton (C.F.).

Thera firmata, Hb.—Very local, among pines.—Wickham (W.W.); Dartford Heath, formerly (A.H.J.).

Hypsipetes ruberata, Frr.—Very local.—Halfway Street Woods (C.F.).

Hypsipetes trifasciata, Bork. (**impluviata,** Hb.).—Local, among alders.—Blackheath, Catford, Wickham (W.W.); Halfway Street Woods (C.F.); one at Lewisham (R.A.); Eltham, common (A.H.J.); Farnborough, pale (W.B.).

Hypsipetes sordidata, Fb. (**elutata,** Hb.).—Generally distributed.—Shooter's Hill, etc. (J.W.T.); Lee, Lewisham, Kidbrook (W.W.); Bexley district (L.W.N.); Eltham, common (A.H.J.); Farnborough, very abundant (W.B.); Paul's Cray Common (H.J.T.); Grove Pk. (C.F.).

Melanthia bicolorata, Hufn. (**rubiginata,** Fb.).—Generally distributed in plum orchards.—Eltham, Halfway Street, Lee, common, among alders (C.F.); Bexley district, common (L.W.N.); Farnborough. (W.B.).

Melanthia ocellata, L.—Generally distributed.—Kidbrook, Burnt Ash Lane, Lee (W.W.); Bexley district, common (L.W.N.); Eltham (A.H.J.); Farnborough (W.B.).

Melanthia albicillata, L.—Local.—Abbey Wood, Dartford district (W.W.); Shooter's Hill, Halfway Street, Bexley, Joyden's Wood (C.F.); Bexley district, abundant (L.W.N.); Farnborough, etc. (W.B.); Beckenham (W.S.B.).

Melanippe hastata, L.—Very rare.—Shooter's Hill Wood, June 4th, 1862, one specimen flying in sunshine (A.H.J.).

Melanippe tristata, L.—Local.—Farnborough, uncommon (H.A.).

Melanippe procellata, Fb.—Local.—Dartford district (W.W.); Plumstead chalk-pits, Joyden's Wood (C.F.); Bexley district (L.W.N.); Charlton pit, formerly (A.H.J.); Green Street Green, Derrick Wood, plentiful (W.B.); Hayes (H.J.T.).

Melanippe unangulata, Haw.—Local.—Farnborough, scarce, 1900 (H.A.).

Melanippe rivata, Hb.—Local.—Kidbrook, Lee, Lewisham (W.W.); Bexley district (L.W.N.); Eltham, common (A.H.J.); Farnborough (W.B.); Wilmington, Dartford dist., common (C.F.).

Melanippe sociata, Bork. (**subtristata,** Haw.).—Generally distributed and common.—Shooter's Hill, Kidbrook (W.W.); Bexley district, common (L.W.N.); Dartford Heath, Lee, Lewisham (R.A.); Eltham, common (A.H.J.); Farnborough (W.B.); Halfway Street, Joyden's Wood (C.F.).

Melanippe montanata, Bork.—Generally distributed.—Shooter's Hill, Plumstead (J.W.T.); Abbey Wood, Wickham, Dartford (W.W.); Bexley district (L.W.N.); Lee (R.A.); Eltham, common (A.H.J.); Farnborough, abundant (W.B.); Lewisham (H.J.T.).

Melanippe galiata, Hb.—Local.—Shooter's Hill, Dartford (W.W.); Bexley district (L.W.N.).

Melanippe fluctuata, L.—Abundant throughout.

Anticlea rubidata, Fb.—Local.—Kidbrook Lane, (W.W.); George Lane, Lewisham, formerly, Burnt Ash Lane, formerly, Bromley Road, Halfway street, etc. (C.F.); Eltham (A.H.J.); Hayes (H.A.); Keston 1901, one (Hewitt).

Anticlea badiata, Hb.—Distributed.—Shooter's Hill (J.W.T.); Kidbrook Lane (W.W.); Bexley district, common (L.W.N.); Eltham, common (A.H.J.); Lee, Lewisham (R.A.); Farnborough, etc. very common (W.B.); Burnt Ash, Erith (C.F.).

Anticlea nigrofasciaria, Gœze (**derivata,** Bork.).—Local.—Plumstead (W.W.); Eltham, not uncommon (A.H.J.); one in 1868 and one in 1904 Lewisham (R.A.); Farnborough, Keston, scarce (W.B.); Lee, formerly (C.F.).

Coremia designata, Hufn. (**propugnata,** Fb.).—Locally distributed.—Lee, Lewisham, Shooter's Hill, Plumstead (W.W.); Bexley, Sidcup (C.F.); Bexley district (L.W.N.); Eltham (A.H.J.); Derrick Wood (W.B.).

Coremia ferrugata, Clerck.—Distributed.—Westcombe Park, Blackheath, etc. (J.W.T.); Lee, Lewisham, Shooter's Hill, Plumstead (W.W.); Bexley district (L.W.N.); Eltham, common (A.H.J.); Greenwich (R.A.); Farnborough, etc. (W.B.); Halfway Street, common (C.F.).

Coremia unidentaria, Haw.—Distributed.—Westcombe Park, Greenwich Marshes, etc. (J.W.T.); Lee, Lewisham, Shooter's Hill, Plumstead (C.F.); Bexley district (L.W.N.); Farnborough, etc. (W.B.).

Coremia quadrifasciaria, Clerck.—Very local.—Erith Woods, Eltham, Chislehurst, Sidcup (C.F.); Bexley district (L.W.N.); Crayford, not uncommon (A.H.J.).

Camptogramma bilineata, L.—Generally distributed and abundant.

Camptogramma fluviata, Hb.—Distributed.—Blackheath (W.W.); Charlton, Lee, Eltham (C.F.); Bexley district (L.W.N.); Eltham (A.H.J.); Farnborough 1880 (H.A.).

Phibalapteryx tersata, Hb.—Local among *Clematis*.—Westcombe Park (J.W.T.); Charlton sand-pit, Plumstead, Bostall chalk-pit, Lee (C.F.); Dartford district (W.W.); Bexley district (L.W.N.); Eltham (A.H.J.); in garden, Lewisham (R.A.); Green Street Green, Down (W.B.).

Phibalapteryx vitalbata, Hb.—Local among *Clematis*.—Dartford district, Plumstead (W.W.); Charlton, Bostall chalk pits, formerly (C.F.); Bexley district (L.W.N.); Eltham (A.H.J.); Green Street Green, Down, common (W.B.).

Phibalapteryx lignata, Hb.—Very local.—Lee, Eltham swamp formerly (C.F.).

Eucosmia certata, Hb.—Local, in gardens among barberry.—Burnt Ash Hill (C.F.); Blackheath Park (W.W.); Bexley district (L.W.N.); Eltham (A.H.J.); one at Lewisham, 1884 (R.A.).

Eucosmia undulata, L.—Very local.—Shooter's Hill, Bexley Woods (C.F.); Keston, Farnborough, odd specimens most years (W.B.).

Triphosa dubitata, L.—Generally distributed.—Westcombe Park, Blackheath (J.W.T.); Bostall Heath, Paul's Cray Common (C.F.); Bexley district (L.W.N.); Eltham (A.H.J.); Lewisham, 1867 (R.A.); Farnborough, scarce (W.B.).

Scotosia vetulata, Schiff.—Local.—George Lane, Lewisham, formerly, Chislehurst (C.F.); Dartford (W.W.); Bexley district (L.W.N.).

Scotosia rhamnata, Schiff.—Local.—George Lane, Lewisham, formerly (C.F.); Dartford (W.W.); Bexley district common (L.W.N.); Lee, formerly (A.H.J.); Farnborough, Keston, Down, fairly common (W.B.).

Cidaria picata, Hb.—Local.—Shooter's Hill, Abbey Wood (W.W.); Bexley (A.H.J.); Keston (H.A.).

Cidaria miata, L.—Scarce.—Charlton, Lee, Lewisham, formerly, Eltham (C.F.); Bexley district (L.W.N.); Farnborough (W.B.).

Cidaria psittacata, Schiff.—Local.—Bexley district (L.W.N.).

Cidaria corylata, Thnb.—Generally distributed.—Shooter's Hill Woods (J.W.T.); Wickham, Dartford (W.W.); Bexley Wood (C.F.); Eltham (A.H.J.); not recently at Lewisham (R.A.); Farnborough, etc. (W.B.); Paul's Cray Common (H.J.T.).

Cidaria russata, Bork.—Generally distributed.—Plumstead (W.W.); Bexley, Eltham, Farnborough, Halfway Street, Foot's Cray (C.F.); Bexley district, common (L.W.N.); Eltham (A.H.J.); Farnborough, etc. (W.B.); Lewisham (H.J.T.).

Cidaria immanata, Haw.—Local, mostly on heaths.—Shooter's Hill (W.W.); Bostall Heath, Paul's Cray Common, Foot's Cray (C.F.); Eltham (A.H.J.).

Cidaria suffumata, Hb.—Local.—Bromley Road, Lee, formerly, Eltham (C.F.); Bexley district (L.W.N.); Eltham (A.H.J.); Down, few 1906 (W.B.).

Cidaria silaceata, Hb.—Local.—Wickham, Dartford (W.W.); Halfway street, Joyden's Wood, Dartford Heath (C.F.); Eltham, Sidcup (A.H.J.); Farnborough, 1887, one (H.A.).

Cidaria testata, L.—Local.—Lee swamp (W.W.); Paul's Cray Common (C.F.); Bexley district (L.W.N.); Eltham, common (A.H.J.); Lewisham 1878 (R.A.); Farnborough, common (W.B.); Hither Green, formerly abundant (C.F.).

Cidaria fulvata, Fœrst.—Generally distributed.—Westcombe Park, Blackheath, etc. (J.W.T.); Kidbrook Lane, Lee, Burnt Ash Lane (W.W.); Bexley district (L.W.N.); Eltham, common (A.H.J.); Farnborough, plentiful (W.B.); Hither Green, formerly abundant (C.F.).

Cidaria dotata, L. (**pyraliata,** Fb.).—Generally distributed.—Westcombe Park, Blackheath, etc. (J.W.T.); Kidbrook Lane, Lee, Burnt Ash Lane (W.W.); Bexley district (L.W.N.); Eltham, common (A.H.J.); Farnborough (W.B.); Burnt Ash, formerly abundant (C.F.).

Cidaria associata, Bork. (**dotata,** Gn.).—Throughout in gardens among currant bushes.—Westcombe Park (J.W.T.); Blackheath (W.W.); Bexley district (L.W.N.); Eltham (A.H.J.); Lee, Greenwich (R.A.); Farnborough, etc. (W.B.); Burnt Ash (C.F.).

Pelurga comitata, L.—Locally abundant among *Chenopodium.*—Greenwich Marshes, Plumstead Marshes (J.W.T.); Lee brickfield (C.F.); Bexley district, common (L.W.N.); Eltham (A.H.J.); Lewisham (R.A.); Farnborough, scarce (W.B.).

EUBOLIIDÆ.

Eubolia cervinata, Schiff.—Local.—Charlton, Lee, Lewisham, Erith (C.F.); Bexley district, common (L.W.N.); Eltham, common (A.H.J.); Plumstead (R.A.); Farnborough, larvæ abundant on hollyhocks in gardens (W.B.).

Eubolia limitata, Scop. (**mensuraria,** Schiff.).—Generally distributed.—Brockley (W.W.); Lee, Eltham, Abbey Wood, Bexley, Plumstead, Bostall Woods (C.F.); Bexley district, common (L.W.N.); Eltham, common (A.H.J.); Lewisham, one only (R.A.); Farnborough (W.B.).

Eubolia plumbaria, Fb.—Local.—Shooter's Hill (W.W.); Erith, Dartford Heath (C.F.); Bexley district, common (L.W.N.); Keston, odd specimens (W.B.); Foot's Cray Common, Hayes (H.J.T.).

Eubolia bipunctaria, Schiff.—Local, near or on chalk.—Brockley (W.W.); Grove Park, Halfway Street (C.F.); Green Street Green (W.B.).

Anaitis plagiata, L.—Local.—Brockley, Lee, Plumstead (W.W.); Dartford Heath, Erith, Bexley (C.F.); Bexley district, common (L.W.N.); Eltham (A.H.J.); Lewisham (R.A.); Farnborough, abundant locally (W.B.).

Chesias spartiata, Fues.—Local.—Dartford (W.W.); Erith, Lee (C.F.); Bexley district, abundant (L.W.N.); Eltham, very common (A.H.J.); Holwood, plentiful, Keston, Hayes (W.B.).

Chesias rufata, Fb. (**obliquaria,** Bork.).—Local.—Abbey Wood, Erith (C.F.); Bexley district, common (L.W.N.); Eltham, Bostall Wood, singly (A.H.J.); Holwood, odd specimens (H.A.); Keston, very scarce, 1905 (W.B.).

Tanagra atrata, L.—Rare.—Lewisham and Greenwich (R.A.).

15. DELTOIDES.

Hypena proboscidalis, L.—Generally distributed among nettle.—Westcombe Park, Shooter's Hill, Blackheath, etc. (J.W.T.); Kidbrook, Burnt Ash (W.W.); Eltham (A.H.J.); Lee (C.F.).

Hypena rostralis, L.—Common throughout.—Westcombe Park, Blackheath, Shooter's Hill, etc. (J.W.T.); Greenwich (W.W.); Lewisham (A. M. Cochrane); Eltham (A.H.J.); Lee (C.F.).

Madopa salicalis, Schiff.—One specimen June 11th, 1859, at Shooter's Hill Wood (A.H.J.);

Pechypogon barbalis, Clerck.—Throughout in woods.—Shooter's Hill, etc. (J.W.T.); Wickham, Dartford (W.W.); Eltham (A.H.J.).

Zanclognatha tarsipennalis, Tr.—Throughout.—Westcombe Park, in gardens (J.W.T.); Dartford (W.W.); Eltham (A.H.J.); Lee, abundant (C.F.).

Zanclognatha grisealis, Hb.—Throughout in woods.—Shooter's Hill, Wickham (W.W.); Bexley, Joyden's Wood, Sidcup (C.F.).

16. NOLIDES.

Nola cucullatella, L.—Generally distributed, and common in hedges and gardens.—Westcombe Park, Blackheath, Lewisham, etc. (J.W.T.); Kidbrook, Lee, Lewisham, etc. (W.W.); formerly excessively abundant, now not so common (C.F.); Farnborough (W.B.); Bromley (B.W.A.).

Nola cristulalis, Dup.—Rare.—Birch, Erith and Joyden's Woods (C.F.).

17. HYLOPHILIDES.

Sarrothripus undulanus, Hb. (**revayana**, Tr.).—Local.—Burnt Ash, etc. (W.W.); Bexley dist. (L.W.N.); Lee, Halfway Street (C.F.).

Earias chlorana, L.—Generally distributed in marshy places.—Greenwich Marshes, Plumstead Marshes, etc. (J.W.T.); Bexley dist. (L.W.N.); Lee dist. (W.W.); Lewisham up to 1897 (R.A.); Burnt Ash (C.F.).

Halias prasinana, L.—Generally distributed in woods.—Shooter's Hill, Lee, etc. (W.W.); Bexley dist. (L.W.N.); common at Farnborough (W.B.); Paul's Cray, Joyden's Wood (C.F.).

Hylophila quercana, Schiff.—Local.—Orpington dist. (H.A.); Holwood (W.B.); Pett's Wood, Chislehurst (C.F.).

18. PYRALIDES.

ORNEODIDÆ.

Orneodes hexadactyla, Linn.—Common among honeysuckle.—Lewisham, sparingly (R.A.); Paul's Cray Common, Plumstead (H.J.T.); Bexley, Eltham, Lee (B.A.B.).

PYRALIDÆ.

Aglossa pinguinalis, L.—Distributed throughout.—Greenwich, Westcombe Park, etc. (J.W.T.); Kidbrook (W.W.); Eltham (A.H.J.); Lee, Lewisham (R.A.).

Aglossa cuprealis, Hb.—Local.—Eltham (A.H.J.).

Pyralis costalis, Fb. (**fimbrialis,** Schiff.).—Distributed throughout.—Greenwich, Westcombe Park, Blackheath, etc. (J.W.T.); Kidbrook, Lee (W.W.); Eltham (A.H.J.); Burnt Ash (C.F.).

Pyralis farinalis, L.—Generally distributed in stables and bakehouses.—Greenwich, etc. (W.W.); in Eltham (A.H.J.); Greenwich, Lewisham (R.A.); Bexley, Lee (C.F.).

Pyralis glaucinalis, L.—Local.—Brockley (W.W.); Eltham (A.H.J.); Lee, Lewisham (R.A.); Burnt Ash, Bexley (C.F.).

Scoparia ambigualis, Tr.—Distributed in woods.—Shooter's Hill, etc. (J.W.T.); Blackheath (W.W.); Bexley (A.H.J.); Paul's Cray Common, Keston (H.J.T.); Abbey Wood, Joyden's Wood (C.F.).

Scoparia cembræ, Haw.—Local.—Blackheath (W.W.); one at Lewisham, 1901 (R.A.); nr. Dartford, common (C.F.).

Scoparia dubitalis, Hb.—Local.—Blackheath (W.W.); Lewisham, sparingly (R.A.); Bexley (A.H.J.); Dartford Heath (C.F.).

Scoparia mercurella, L.—Generally distributed.—Greenwich Naval School Gardens, Westcombe Park, Greenwich Park, Lewisham, etc. (J.W.T.); Blackheath (W.W.); Lee, common (C.F.).

Scoparia truncicollella, Stain.—Local.—Greenwich Park, Blackheath (W.W.); Paul's Cray Common, abundant (C.F.).

Stenopteryx noctuella, Schiff. (**hybridalis,** Hb.).—Local.—Westcombe Park (J.W.T.); Blackheath (W.W.); Lewisham, scarce (R.A.); Eltham (A.H.J.); Paul's Cray Common (H.J.T.); Bexley (C.F.).

Pyrausta aurata, Scop. (**punicealis,** Schiff).—Local.—Westcombe Park (J.W.T); Lewisham, rarely at intervals (R.A.); Lee (C.F.).

Pyrausta purpuralis, L.—Distributed.—Westcombe Park, Blackheath, Hither Green, etc. (J.W.T.); Paul's Cray Common, Keston (H.J.T.); Lee, among garden mint, common (C.F.).

Herbula cespitalis, Schiff.—Distributed.—Blackheath, Westcombe Park, etc. (J.W.T.).

Ennychia octomaculata, Fb.—Local.—West Wood, Dartford district (W.W.); Abbey Wood (C.F.).

Endotricha flammealis, Schiff.— Distributed throughout.—Westcombe Park, Blackheath, Lewisham, Hither Green (J.W.T.); Shooter's Hill, Wickham (W.W.); Eltham (A.H.J.); Bexley, abundant (C.F.).

BOTYDÆ.

Eurrhypara urticata, L.—Abundant throughout.

Scopula lutealis, Hb.—Local.—Westcombe Park, Greenwich Marshes (J.W.T.); Brockley railway bank, Lee (W.W.).

Scopula olivalis, Schiff.—Distributed throughout.—Westcombe Park Blackheath, etc. (J.W.T.); Kidbrook, Lewisham (W.W.); Lee formerly (R.A.); Eltham (A.H.J.); Lee, Grove Park, Bexley, common (C.F.).

Scopula prunalis, Schiff.—Distributed.—Westcombe Park (J.W.T.); Kidbrook, Lewisham (W.W.); Eltham (A.H.J.); Bromley, Lee (H.J.T.); Burnt Ash (C.F.).

Scopula ferrugalis, Hb.— Uncertain.— Lee, Lewisham, Greenwich (W.W.); Eltham (A.H.J.); Blackheath, at light often common (C.F.).

Botys flavalis, Schiff.—Local.—Greenwich Marshes (W.W.), Ladywell (J.W.T.).

Botys hyalinalis, Hb.—Local.—Lee (W.W.).

Botys verticalis, Schiff.—Abundant throughout among nettles.

Ebulea crocealis, Hb.—Local.—Lewisham, Lee (W.W.); Eltham (A.H.J.).

Ebulea verbascalis, Schiff.—Local.—Greenwich Marshes (W.W.); Bexley (A.H.J.); Erith, abundant (C.F.).

Ebulea sambucalis, Schiff.—Distributed throughout among elder.—Westcombe Park, Blackheath, Lewisham, Hither Green (J.W.T.); Plumstead (W.W.); Greenwich, sparingly formerly (R.A.); Eltham (A.H.J.); Bromley (H.J.T.); Lee (C.F.).

Perinephele lancealis, Schiff.—Uncommon.—Abbey Wood and one at Eltham (A.H.J. & C.F.).

Pionea forficalis, L.—Abundant throughout.

Orobena straminalis, Hb.—Local.—Lee (W.W.); once, at light, Charlton (A.H.J.).

HYDROCAMPIDÆ.

Cataclysta lemnata, Schiff.—Distributed throughout on ponds and in marshes.—Greenwich and Plumstead Marshes (J.W.T.); Southend Pond, Lewisham, Burnt Ash Lane (W.W.); Eltham (A.H.J.); Lee (C.F.).

Paraponyx stratiotata, Schiff.—Local, in marshes and by ponds.—Lewisham, Burnt Ash Lane, Southend Pond (W.W.); Eltham (A.H.J.); Lee, at light (C.F.).

Hydrocampa nymphæata, Schiff.—Local, in marshes and ponds.—Lewisham, Burnt Ash Lane, Southend Pond (W.W.); Eltham (A.H.J.); Lee (C.F.).

Hydrocampa stagnata, Don.—Local, in marshes and ponds.—Lewisham, Southend Pond, Burnt Ash Lane (W.W.); Eltham (A.H.J.); Lee, formerly, but not common (R.A.).

19. CRAMBIDES.

CHILIDÆ.

Chilo phragmitellus, Hb.—Throughout the Thames' marshes among reeds.—Very abundant Greenwich Marshes, Plumstead Marshes, etc. (J.W.T.).

Schœnobius forficellus, Thnb. — Local. — Ponds in brickfields Lewisham (W.W.).

CRAMBIDÆ.

Crambus falsellus, Schiff.—Sparingly distributed.—Westcombe Park (J.W.T.); Greenwich (W.W.); Lee, Blackheath, scarce (C.F.).

Crambus pratellus, L.—Common throughout.—Greenwich and Plumstead marshes, Blackheath, Shooter's Hill, Hither Green, Grove Park, etc. (J.W.T.); Brockley (W.W.); Lee, Lewisham (R.A.); Burnt Ash, Bexley, Dartford district (C.F.).

Crambus pinellus, L.—Local.—Dartford district, Wickham (W.W.); Bexley (A.H.J.); Paul's Cray Common, common, Erith (C.F.).

Crambus perlellus, Scop.—Generally distributed.—Greenwich and Plumstead marshes, Hither Green, Grove Park, etc. (J.W.T.). Var. **warringtonellus,** Zell., throughout on the Thames' Marshes (J.W.T.).

Crambus tristellus, Fb.—Generally distributed.—Westcombe Park, Blackheath, Greenwich and Plumstead marshes, Hither Green, Grove Park, etc. (J.W.T.); Brockley (W.W.); Lee and Lewisham (R.A.); Paul's Cray Common (H.J.T.); Burnt Ash, Bexley (C.F.).

Crambus contaminellus, Hb.—Local.—Blackheath, formerly, recent records wanted (J.W.T.).

Crambus geniculeus, Haw.—Local.—Greenwich, Blackheath (W.W.); Lewisham (R.A.); Charlton (C.F.).

Crambus culmellus, L.—Abundant throughout.

Crambus hortuellus, Hb. — Generally distributed. — Greenwich marshes, Blackheath, Hither Green, Grove Park, etc. (J.W.T.); Lewisham (R.A.); Lee (C.F.).

Crambus chrysonuchellus, Scop.—Local.—Dartford district (W.W.); Bexley (C.F.).

PHYCIDÆ.

Myelophila cribrum, Schiff. (**cribrella,** Hb.).—Local among thistles.—Bexley (A.H.J.); Greenwich Marshes, etc. (W.W.); Lee (C.F.).

Alispa angustella, Hb.—Darenth dist. (Machin).

Homœosoma nimbella.—Westcombe Park (J.W.T.).

Homœosoma sinuella, Fb.—Local.—Dartford Brent (W.W.).

Ephestia elutella, Hb.—In houses, grocers' shops and warehouses.—Lewisham (A. M. Cochrane), Westcombe Park, Greenwich, etc. (J.W.T.); Dartford Brent (C.F.).

Ephestia ficulella, Bar.—In grocers' shops and warehouses.

Ephestia cahiritella, Zell. (**passulella,** Bar.).—In grocers' shops and warehouses.

Ephestia calidella, Gn. (**ficella,** St.).—In grocers' shops and warehouses.

Ephestia kuehniella, Zell.—In all flour mills.

Euzophera pinguis, Haw.—Lewisham, sparingly (R.A.); Eltham (C.F.).

Cryptoblabes bistriga, Haw.—Lee, Bexley, Dartford districts (C.F.).

Plodia interpunctella, Hb.—In seed shops.

Phycis betulæ, Gœze.—Paul's Cray Common (C.F.).

Phycis fusca, Haw.—Hayes Common (H.J.T.); Paul's Cray Common (C.F.).

Pempelia palumbella, Fb.—On all heaths.—Paul's Cray Common, Abbey Wood (H.J.T.); Bostall and Dartford Heaths (C.F.).

Rhodophæa consociella, Hb.—Lewisham, one only, 1879 (R.A.); Bexley, Eltham (C.F.).

GALLERIIDÆ.

Aphomia sociella, L.—In wasps' nests.

Melissoblaptes cephalonica, Sta.—In grocers' shops and warehouses.

Achrœa grisella, Fb.—In old beehives.

20. ALUCITIDES.

Platyptilia gonodactyla, Schiff.—Generally distributed where coltsfoot grows.—Westcombe Park, Blackheath district, Lewisham, Hither Green (J.W.T.); Greenwich marshes, Lee, Grove Pk. (B.A.B.); Brockley (H.J.T.); Lewisham (R.A.).

Gillmeria pallidactyla, Haw.—Generally distributed among yarrow.—Westcombe Park, Lewisham, Blackheath (J.W.T.); Chislehurst (B.A.B.).

Eucnemidophorus rhododactyla, Fb.—Local.—Lewisham (H.T.S.); Lee (C.F.); Bexley district (J.A.B.).

Amblyptilia cosmodactyla, Hb. (**acanthodactyla,** Hb.).—Distributed.—Bexley, Lee, Mottingham, Chislehurst, Dartford Heath (B.A.B.).

Amblyptilia punctidactyla, Haw.—Local.—Charlton (H.T.S.).

Adkinia zophodactylus, Dup.—Local.—Orpington (J.W.T.).

Adkinia bipunctidactyla, Haw. — Local. — Orpington (J.W.T.).

Stenoptilia pterodactyla, Hb.—Local.—Sidcup, Lee (B.A.B.); Farnborough (J.W.T.); sparingly Lewisham (R.A.); Bexley (C.F.); Chislehurst, Grove Pk. (B.A.B.).

Marasmarcha lunædactyla, Haw. (**phæodactylus,** Hb.).—Local.—Lee, Bexley, Dartford Heath (B.A.B.).

Oxyptilus parvidactyla, Haw.—Local.—Charlton sandpit (J.W.D.).

Emmelina monodactyla, L.— Generally distributed.—Westcombe Park, Blackheath, Lewisham, Ladywell (J.W.T.); Greenwich (R.A.); Eltham, Mottingham, Lee (B.A.B.).

Porrittia galactodactyla, Hb.—Among burdock.—Bexley, Darenth (B.A.B.).

Ovendenia septodactyla, Tr.—Very local.— Eltham, Mottingham, Bexley (B.A.B.).

Hellinsia osteodactylus, Zell.—Darenth (B.A.B.).

Alucita pentadactyla, L.—Abundant throughout, among *Convolvulus*.—Ladywell (A. M. Cochrane); Westcombe Park, Greenwich (J.W.T.), etc.

21. HEPIALIDES.

Hepialus hectus, L.—Local.—Shooter's Hill (W.W.); Bexley district, abundant (L.W.N.); Bexley, Erith and Abbey Wood (C.F.); Chislehurst (G.B.B.); Farnborough (H.A.); Keston (Bromley List); Beckenham (H.J.T.).

Hepialus lupulinus, L.—Generally distributed and common.—Westcombe Park, Blackheath, Shooter's Hill, etc. (J.W.T.); Lewisham, Hither Green, Lower Sydenham, etc. (A. M. Cochrane); Bexley district, abundant (L.W.N.); Lee (Green); abundant everywhere (C.F.); Southend, Catford (A.R.); Farnborough (H.A.); Beckenham (Bolas).

Hepialus sylvanus, L.—Local.—Lee, Dartford, etc. (W.W.); Bexley district, common (L.W.N.); Plumstead, Bostall Heath, Grove Pk., Dartford Heath, Chislehurst (C.F.); Lewisham in garden (R.A.); Farnborough (H.A.); Hayes (Bromley Society).

Hepialus humuli, L.—Abundant throughout.—Westcombe Park, Blackheath, Greenwich Marshes, Plumstead, etc. (J.W.T.); Lewisham, Hither Green, Lee, etc. (A.M. Cochrane); Bexley district, abundant (L.W.N.); common in meadows and waste ground (C.F.); Eltham (S.R.A.); Farnborough (H.A.); Beckenham (W.S.B.).

22. ZEUZERIDES.

Zeuzera pyrina, L. (**æsculi,** L.).—Distributed throughout, doing considerable damage in parks, etc.—Westcombe Park, Blackheath, Greenwich Park, Hither Green, Lee, etc. (J.W.T.); Greenwich (W.W.); Lewisham (A. M. Cochrane); Bexley district (L.W.N.); Charlton, Lee, Lewisham, Eltham, at intervals (C.F.); two, Southend, Catford, 1900 (A.R.); Farnborough H.A.); Beckenham (Bolas).

23. COSSIDES.

Cossus cossus, Fb. (**ligniperda,** Fb.).—Distributed throughout.—Westcombe Park, Shooter's Hill, etc. (J.W.T.); Lower Sydenhm (A. M. Cochrane); Greenwich Park, Lee, Lewisham (W.W.); Bexley district (L.W.N.); Woolwich, Crossness (J.A.B.); Lewisham (R.A.); Southend, Catford (A.R.); in garden at Lee (G.B.B.); Farnborough (H.A.); Bromley (Bromley Society); Beckenham (Bolas); Mottingham, Burnt Ash (C.F.).

24. ÆGERIIDES.

Ægeria myopiformis, Bork.—Generally distributed, and common in apple and pear trees in gardens.—Greenwich, etc. (J.W.T.); Lewisham (W.W.); Bexley district, fairly common (L.W.N.); Lee, Blackheath, not rare (C.F.).

Ægeria culiciformis, L.—Locally common in birch woods.—Darenth, etc. (J.W.T.); Bexley district, fairly common (L.W.N.); Joyden's Wood, Chislehurst, Shooter's Hill (C.F.); Farnborough (W.B.).

Ægeria formiciformis, Esp.—Locally abundant in osier beds, and willows on the Thames' Marshes.—Plumstead (W.W.); Dartford district (C.F.).

Ægeria ichneumoniformis, Fb.—Scarce, possibly overlooked.—Lee, railway bank (W.W.); one taken Grove Park railway bank 15 years ago (C.F.).

Ægeria cynipiformis, Esp.—Local.—Greenwich Park, Burnt Ash Lane, Darenth, fairly common (W.W.); Bexley district, fairly common (L.W.N.); Joyden's Wood (C.F.).

Ægeria tipuliformis, Clerck.—Common throughout, in gardens, where *Ribes* of any kind is grown.—Westcombe Park, Lewisham, etc. (J.W.T.); Greenwich, etc. (W.W.); Bexley district, abundant (L.W.N.); Southend, Catford (A.R.); Farnborough (W.B.); Lee and Blackheath (B.W.A.); Beckenham (Bolas); Burnt Ash (C.F.).

Trochilium bembeciformis, Hb.—Local.—Bexley district, rare (L.W.N.); formerly at Joyden's Wood; none recently (C.F.); Farnborough (W.B.).

25. EUCLEIDES.

Cochlidion limacodes, Hufn.—Local.—West Wood, Shooter's Hill, Swanscombe Wood (W.W.); Bexley district (L.W.N.); Shooter's Hill, Birch Wood, Joyden's Wood (C.F.); Farnborough (H.A.); West Wickham (Bromley List).

26. ANTHROCERIDES.

Anthrocera filipendulæ, L.—Very sparingly distributed.—Formerly Burnt Ash Lane, Lee, Forest Hill (W.W.); formerly abundant at Grove Park, but not seen for 20 years (C.F.); Bexley district (L.W.N.); Farnborough (H.A.).

27. TORTRICIDES.

TORTRICIDÆ.

Tortrix podana, Scop.—Common throughout the district (J.A.B.).

Tortrix piceana, L.—Very local.—Dartford (W.W.).

Tortrix cratægana, Hb.—Chislehurst (B.A.B.).

Tortrix xylosteana, L.—Common in July (J.A.B.).—Lewisham (R.A.), etc.

Tortrix sorbiana, Hüb.—Less frequent, but generally to be found where oak occurs (J.A.B.). Shooter's Hill, Bexley, Erith, Eltham (C.F.); common, woods (A.H.J.); Lewisham (R.A.).

Tortrix rosana, L.—Abundant everywhere (J.A.B.).

Tortrix diversana, Hüb.—Occurs sparingly about Shooter's Hill (J.A.B.); Chislehurst, Bexley (J.W.T.); Dartford Heath abundant (C.F.); Eltham (A.H.J.); Kidbrook, very local, formerly (W.W.).

Tortrix heparana, Schiff.—Generally common (J.A.B.).

Tortrix ribeana, Hüb.—Generally abundant (C.F.).

Tortrix corylana, Fb.—Paul's Cray Common and Abbey Wood, not common (C.F.); Eltham (A.H.J.); Blackheath (W.W.).

Tortrix unifasciana, Dup.—Abundant throughout the district (J.A.B.).

Tortrix semialbana, Gn.—Local and scarce.—Road to Darenth (W.W.).

Tortrix costana, Fab.—Is to be taken in the larval stage on Plumstead Marshes, but not commonly. It comes to light (J.A.B.); Greenwich Marshes (J.W.T.); Lee (B.A.B.).

Tortrix palleana, Hüb.—Sparingly on Plumstead Marshes (J.A.B.); Lewisham (H.T.S.); East Greenwich (W.W.).

Tortrix viridana, L.—Only too abundant (J.A.B.).

Tortrix ministrana, L.—Not infrequent in woods (J.A.B.); Eltham (A.H.J.); Kidbrook, Shooter's Hill (W.W.).

Tortrix fosterana, Fabr.—Sparingly.—Plumstead, have bred it mostly from ivy (J.A.B.); Eltham and Lee, common (C.F.); Westcombe Park (J.W.T.); Lewisham (R.A.); Kidbrook (W.W.).

Tortrix branderiana, L.—Larvæ are often to be found where aspen occurs.—Abbey Wood, Joyden's Wood (J.A.B.); Bexley, abundant, Half-way Street (C.F.); Eltham, imagines scarce, larvæ common (A.H.J.); Dartford (W.W.); Chislehurst (B.A.B.).

Dichelia grotiana, Fabr.—Sparingly throughout the district.—Occasionally abundant on fences about Shooter's Hill. The eggs hatch in August, but the larva is undescribed; am inclined to believe that it will feed on birch (J.A.B.); Sidcup, not uncommon (C.F.); Westcombe Park (J.W.T.); Kidbrook, Blackheath, Lee (W.W.); Chislehurst, Eltham, Bexley (B.A.B.).

Leptogramma literana, L.—Sparingly on oak-trunks Shooter's Hill Wood (J.A.B.); Blackheath, on fences (W W.); Bexley (B.A.B.).

Leptogramma boscana, Fabr. and var. **scabrana,** Fb.—Seems to have become extinct in many of its former haunts in the immediate neighbourhood of Plumstead (J.A.B.); extinct near Eltham (C.F.); Dartford Heath fence (A.H.J.).

*Mr. West writes: "My first discovery of L. SCABRANA was in October, 1872, in an elm hedge about 50 feet long, in Cage Lane, Plumstead, when it was taken quite unexpectedly in great numbers. It was very sluggish. L. BOSCANA was found the first week in July, 1874. It is very active and easily damaged. In 1875 I bred a fine series from larvæ collected in June. The same year I bred L. SCABRANA from larvæ taken at the end of August, the larvæ of both species being alike." After numerous failures to obtain ova, and so breed the species to allay his suspicions of these being dimorphic broods of one species, he at length succeeded, and his note reads: 'I obtained ova of L. BOSCANA on July 17th, 1877, laid in little green patches on the sides of a bottle in which the females had been placed.' After describing the habits of the larvæ, he continues: 'On September 29th the first imago appeared, and was, as I expected, a true L. SCABRANA.'" (J. W. Tutt, Ent. Record, 1906).

Leptogramma niveana, Fb.—Near Dartford (C.F.).

Peronea sponsana, Fabr.—Among birch (J.A.B.); Bexley and Abbey Wood (C.F.); Westcombe Park (J.W.T.); Mottingham, common (A.H.J.); Lewisham, one (R.A.); Blackheath (W.W.); Eltham, Lee, Chislehurst (B.A.B.).

Peronea schalleriana, L.—Bexley and Abbey Wood (C.F.); Chislehurst, Eltham (B.A.B.).

Peronea variegana, Schiff.—Abundant and very variable among hawthorn (J.A.B.); Eltham (A.H.J.); Lewisham, not common (R.A.); Blackheath, Lee (W.W.).

Peronea comparana, Hb.—Abbey Wood and Joyden's Wood (C.F.); Chislehurst (H.J.T.).

Peronea logiana, Schiff.—Dartford, on *Viburnum lantana* (W.W.); Darenth (B.A.B.).

Peronea comariana, Zell.—Eltham, common (A.H.J.).

Peronea aspersana, Hb.—Dartford (W.W.); Grove Pk. (B.A.B.).

Peronea hastiana, L.—Larvæ to be found in autumn on sallow Plumstead (J.A.B.); now extinct at Lee and Eltham (C.F.); Shooter's Hill (W.W.); Chislehurst (B.A.B.).

Peronea ferrugana, Treit.—Common.—Plumstead (J.A.B.); Lewisham (H.J.T.); Bexley, not common (A.H.J.); Kidbrook (W.W.); Chislehurst (B.A.B.).

Rhacodia caudana, Fabr.—Larvæ to be found in sallow leaves in spring in Abbey Wood and Eltham (J.A.B.); Lewisham, Lee (W.W.); Chislehurst, Bexley (B.A.B.).

Teras contaminana, Hub.—Abundant and very variable wherever hawthorn occurs (J.A.B.).

Dictyopteryx lœflingiana, L.—In abundance wherever oak is found (J.A.B.).

Dictyopteryx holmiana, L.—Sparingly among hawthorn, apple, etc. (J.A.B.); distributed (C.F.); Eltham, common (A.H.J.); Lewisham (W.W.).

Dictyopteryx bergmanniana, L.—Very common on wild rose (C.F.).

Dictyopteryx forskaleana, L.—Common wherever maple is found (J.A.B.); Eltham (A.H.J.); Bromley (H.J.T.); Lewisham sparingly (R.A.); Lee, Plumstead, Kidbrook (W.W.).

Argyrotoxa conwayana, Fabr. — Common among privet, etc. (J.A.B.).

Ptycholoma lecheana, L. — Very frequent in woods (J.A.B.); Lewisham (H.J.T.); Plumstead, Dartford (W.W.).

PENTHINIDÆ.

Ditula hartmanniana, L.— Lee and Eltham (C.F.); Lewisham (Weston).

Ditula semifasciana, L.—Lee, Eltham and Bexley, not common (C.F.).

Penthina corticana, Hüb.—Generally distributed (C.F.). Shooter's Hill, Bostall Wood and Joyden's Wood (J.A.B.); Paul's Cray Common (A.H.J.).

Penthina betuletana, Haw. — Paul's Cray Common, abundant, Lee and Blackheath on palings (C.F.); Shooter's Hill, Bostall Wood (J.A.B.).

Penthina capræana, Hb.—Not common, larvæ in twisted sallow leaves (J.A.B.); Bexley and Half-way Street (C.F.); Eltham (A.H.J.).

Penthina sororculana, Zett.—Bexley, Dartford fence, and Chislehurst (C.F.).

Penthina fuligana, Hb.—Larvæ, Grove Park railway-bank (C.F.); Blackheath, Kidbrook, Lee (W.W.); Chislehurst, Eltham (B.A.B.).

Penthina pruniana, Hüb. — Common on blackthorn; variable in size (J.A.B.); Lewisham, sparingly (R.A.); Lee (W.W.), etc.

Penthina variegana, Hüb.—Abundant generally among whitethorn (J.A.B.).

Penthina ochroleucana, Hüb.—To be found more or less sparingly wherever wild rose occurs.—Occurs too freely among the roses in my own garden (J.A.B.); Grove Park railway bank (A.H.J.); Lewisham, sparingly (R.A.); Kidbrook, Lee (W.W.). (J.W.T.).

Penthina gentiana, Hüb.—Occasionally in seed heads of *Dipsacus.*—Plumstead Marshes (J.A.B.); Greenwich Marshes, Lee (W.W.).

Penthina sellana, Hüb.—Plumstead Marshes (J.A.B.); Grove Park railway bank (C.F.); Eltham (A.H.J.); East Greenwich (W.W.).

Antithesia salicella, L.—Larva is locally common on willows.—Plumstead Common (J.A.B.); Lee and Eltham (C.F.); Lewisham, pair in 1868 (R.A.); Bexley, Ladywell, Mottingham, Chislehurst (B.A.B.), Greenwich Marshes (J.W.T.).

SPILONOTIDÆ.

Spilonota ocellana, Fab.—Abundant.—Melanic forms of frequent occurrence (J.A.B.); Blackheath (W.W.).

Spilonota lariciana, Zell.—To be beaten freely from larch on Bostall Heath (J.A.B.); Blackheath (W.W.); Bexley (B.A.B.).

Spilonota pauperana, Dup.—Darenth, 1850 (*Zoologist* VIII.).

Spilonota aceriana, Dup.—Abundant locally among poplars.—Roads in Plumstead itself, Crossness (J.A.B.); Lee and Grove Park, abundant (C.F.); Westcombe Park (J.W.T.); Eltham (A.H.J.); Blackheath (W.W.); Lewisham (A. M. Cochrane).

Spilonota dealbana, Frœl.—Generally distributed (J.A.B.).

Spilonota neglectana, Dup.—Sparingly among sallow and poplar (J.A.B.); Lee, common (C.F.); Blackheath (W.W.); Eltham, Mottingham, Bexley (B.A.B.); Westcombe Park (J.W.T.).

Spilonota servillana, Dup.—Eltham (B.A.B.).

Spilonota incarnatana, Hb.—Dartford Heath (B.A.B.).

Spilonota trimaculana, Haw.—Common in hedgerows (J.A.B.).

Spilonota rosæcolana, Dbl.—Often abundant (C.F.); Westcombe Park (J.W.T.); Grove Park railway bank (A.H.J.); Lewisham gardens, sparingly (R.A.).

Spilonota roborana, Treit.—Only too abundant on roses (J.A.B.).

Pardia tripunctana, Fab.—Common and more destructive than the last (J.A.B.); Lewisham, less common than formerly (R.A.); Kidbrook, Lee (W.W.), Westcombe Park (J.W.T.).

SERICORIDÆ.

Aspis udmanniana, L.—Larvæ very common everywhere in twisted bramble leaves (J.A.B.); generally distributed (C.F.); Lewisham, one (R.A.); Kidbrook, Lee (W.W.).

Sideria achatana, Fab.—To be beaten from whitethorn.—Plumstead Marshes (J.A.B.); Lee, common, Bexley (C.F.); Eltham, common (A.H.J.); Kidbrook (W.W.); Chislehurst (B.A.B.).

Sericoris fuligana, Haw.—Only one taken July 16th, 1901, on Plumstead Marshes (J.A.B.).

Sericoris bifasciana, Haw.—Sparingly among Scotch fir on Bostall Heath (J.A.B.); Dartford fence (C.F.); Chislehurst (B.A.B.).

Sericoris cespitana, Hb.—Dartford Heath (B.A.B.).

Sericoris lacunana, Dup.—Abundant everywhere (J.A.B.).

Sericoris urticana, Hüb.—Common and generally distributed (J.A.B.).

Orthotænia striana, Schiff.—Occasionally seen, but not so frequent as just outside the boundary (J.A.B.); Bexley, Dartford (C.F.); East Greenwich (W.W.); Westcombe Park (J.W.T.); Lewisham, occasionally in my garden (R.A.); Lee, Eltham (B.A.B.).

SCIAPHILIDÆ.

Cnephasia musculana, Hüb.—Generally common amongst aspen, oak, etc. (J.A.B.); Shooter's Hill (W.W.).

Sciaphila nubilana, Hüb.—In hawthorn hedges.—Plumstead Marshes (J.A.B.); Lee and Bexley, common (C.F.); Eltham (A.H.J.); Kidbrook (W.W.); Chislehurst (B.A.B.).

Sciaphila incertana, Treit (**subjectana,** Gn.).—Generally abundant (J.A.B.).—Eltham, common (A.H.J.); Lewisham, fairly common (R.A.); Kidbrook (W.W.); Westcombe Park (J.W.T.).

Sciaphila virgaureana, Treit.—Very common among *Teucrium,* etc. (J.A.B.).

Sciaphila chrysantheana, Dup.—Common on posts and fences among *Chrysanthemum* on Plumstead Marshes (J.A.B.); Lee, Halfway Street, and Bexley, scarce (C.F.); Dartford Heath fence (A.H.J.); Greenwich Park, Blackheath (W.W.).

Sciaphila sinuana, Steph.—Local and scarce among *Scilla* in July.—Abbey Wood (J.A.B.); Eltham, common (A.H.J.); Chislehurst (B.A.B.).

Sciaphila pascuana, Hüb.—End of June and beginning of July, where *Chrysanthemum anthemis* occurs (J.A.B.); Beckenham, Kidbrook (W.W.).

Sciaphila hybridana, Hüb.—In June, but not so abundant as on the chalk just outside our limits (J.A.B.); Eltham, common (A.H.J.); Lewisham, fairly common (R.A.); Kidbrook (W.W.).

Sphaleroptera longana (ictericana), Haw.—Common and variable.—Plumstead Marshes (J.A.B.); Grove Park and Eltham (C.F.); Chislehurst (B.A.B.).

Capua favillaceana, Hüb. — Sparingly among *Carpinus*.—Abbey Wood (J.A.B.); Bexley abundant, Halfway Street and Eltham (C.F.); Chislehurst (B.A.B.).

GRAPHOLITHIDÆ.

Bactra lanceolana, Hb. — Chislehurst, common (C.F.); Eltham, common (A.H.J.); Kidbrook, Lee, Lewisham (W.W.).

Phoxopteryx uncana, Hb.—Chislehurst (J.W.T.); Bostall Heath, formerly (C.F.); Bexley (B.A.B.).

Phoxopteryx biarcuana, St.—Bostall Heath (W.W.).

Phoxopteryx lundana, Fb.—Grove Park and Bexley (C.F.); Dartford, Kidbrook (W.W.).

Phoxopteryx diminutana, Haw.—Halfway Street (C.F.); Eltham (A.H.J.).

Phoxopteryx derasana, Hb.—Scarce.—Road to Darenth (W.W.); Bexley (B.A.B.).

Phoxopteryx upupana, Tr.—Halfway Street and Paul's Cray Common, abundant (C.F.); Eltham and Chislehurst (A.H.J.).

Phoxopteryx mitterpacheriana, Schiff.—Generally common (C.F.); Abbey Wood, Shooter's Hill, Joyden's Wood (J.A.B.); Eltham (A.H.J.); Dartford (W.W.).

Phoxopteryx lactana, Fab.—Local on aspen (J.A.B.); Bexley (J.W.T.); Sidcup (Weston); Halfway Street (C.F.).

Grapholitha ramella, L.—Fairly common among birch.—One meets not unfrequently with a form with black forewings with a white central streak.—Joyden's Wood (J.A.B.); Dartford Heath (H.T.S.); Abbey Wood, Erith and Paul's Cray Common (C.F.); Eltham (A.H.J.), Westcombe Park (J.W.T.).

Grapholitha nisella, Clerck.—Lee, Dartford formerly, Black Fen, common (C.F.); Bexley, common (A.H.J.); Blackheath, Lewisham (W.W.).

Grapholitha cinerana, Haw.—Near Black Fen, common (C.F.); Eltham (A.H.J.); Blackheath, Lewisham (W.W.).

Grapholitha nigromaculana, Haw.—Among ragwort.—Plumstead Marshes (J.A.B.); Grove Park, common (C.F.); Sidcup, common (A.H.J.); Lewisham, common locally (R.A.); East Greenwich (W.W.); Bexley, Chislehurst (B.A.B.).

Grapholitha subocellana, Don.—Abundant among *Salix.*—Shooter's Hill Wood (J.A.B.); Eltham, common (A.H.J.); Bexley, Chislehurst (B.A.B.).

Grapholitha minutana, Hüb.—Common on poplar trunks and neighbouring fences in July at Crossness (J.A.B.); Lee, Blackheath and Westcombe Park (J.W.T.); Grove Park, abundant (C.F.); Lewisham, common locally (R.A.); Eltham, Bexley (B.A.B.).

Grapholitha trimaculana, Don.—Very common among elm (J.A.B.).

Grapholitha penkleriana, F.R.—Fairly common in all the woods among hazel (J.A.B.); Eltham (A.H.J.); Blackheath, Lee (W.W.).

Grapholitha obtusana, Haw.—Local.—Lewisham (Weston); Shooter's Hill Wood (J.A.B.); Abbey Wood (W.W.); Eltham (B.A.B.).

Grapholitha nævana, Hüb.—Larvæ on holly.—Stony Hill Wood (J.A.B.); Westcombe Park (J.W.T.); Lewisham and Blackheath; common at Lee and Eltham (C.F.); Lewisham, abundant in 1888 (R.A.); Chislehurst (B.A.B.).

Grapholitha geminana, St.—Paul's Cray Common and Eltham Woods (C.F.).

Phlœodes tetraquetrana, Haw.—Occasionally among birch, but not so commonly as on the chalk outside the limits (J.A.B.); Chislehurst, very common (B.A.B.).

Phlœodes demarniana, Fisch.—Paul's Cray Common, not scarce (C.F.); Chislehurst (A.H.J.); Bexley, Darenth (B.A.B.).

Phlœodes immundana, F.R. — Occasionally common Shooter's Hill and Bostall (J.A.B.); Lee, Chislehurst, Eltham (C.F.); Lewisham (Weston); Bexley (B.A.B.).

Hypermecia angustana, Hb.—Eltham, Bexley (C.F.).

Hypermecia cruciana, L.—On *Salix.*—Shooter's Hill Wood (J.A.B.); Lee (W.W.).

Batodes angustiorana, Haw.—Abundant generally (J.A.B.).

Pædisca bilunana, Haw.—Common among birch.—Bostall Heath, Shooter's Hill Wood, Joyden's Wood (J.A.B.); Blackheath, Westcombe Park (J.W.T.); Chislehurst (A.H.J.); Lewisham, fairly common (R.A.).

Pædisca oppressana, Treit.—Very sparingly at Crossness on poplar trunks, in July (J.A.B.); Lee, Eltham, Grove Park (C.F.); Chislehurst (B.A.B.).

Pædisca ratzeburghiana.—Westcombe Park (J.W.T.).

Pædisca rubiginosana, H.S.—Chislehurst (B.A.B.).

Pædisca profundana, Fb.—Eltham and Chislehurst, scarce (C.F.); Bexley, common (A.H.J.); Blackheath (W.W.).

Pædisca corticana, Hüb.—Very common and variable on oak-trunks.—Bostall Heath, Shooter's Hill Wood (J.A.B.); Eltham, common (A.H.J.); Lewisham, sparingly 1890 (R.A.); Blackheath (W.W.); Westcombe Park (J.W.T.).

Pædisca occultana, Wilk.—Not uncommon.—Bostall Heath (J.A.B.); Chislehurst, Bexley (B.A.B.).

Pædisca opthalmicana, Hüb.—Near Black Fen, common (C.F.); Bexley (B.A.B.).

Pædisca solandriana, L.—Shooter's Hill, Joyden's Wood, among birch (J.A.B.); Chislehurst, Bexley, abundant (C.F.); Eltham (B.A.B.).

Pædisca semifuscana, St.—Formerly abundant at Lee (C.F.).

Ephippiphora cirsiana, Zell.—Plumstead Marshes (J.A.B.); Eltham, Bexley, Dartford (C.F.).

Ephippiphora similana, Hb.—Chislehurst, Bexley (C.F.); Paul's Cray Common (A.H.J.); Eltham (B.A.B.).

Ephippiphora brunnichiana, Frœl.—Wherever *Tussilago* occurs freely (J.A.B.); railway banks (A.H.J.); Lee, Lewisham (W.W.).

Ephippiphora fœnella, L.—Larvæ are usually to be found where *Artemisia* grows freely (J.A.B.); Charlton, Bexley, Eltham, Dartford (C.F.); East Greenwich (W.W.).

Ephippiphora nigricostana, Haw.—Larvæ in stems of *Stachys sylvatica*. In spring pupates just beneath one of the upper nodes of the stem.—Shooter's Hill (J.A.B.); Lee, Dartford, Hither Green (C.F.); Lewisham (Weston); Eltham (A.H.J.); Kidbrook (W.W.).

Ephippiphora trigeminana, Stph.—Larvæ very common in root-stock of *Senecio*.—Plumstead Marshes (J.A.B.); Grove Park, scarce (A.H.J.); Bexley (B.A.B.).

Ephippiphora populana, Fab.—Local.—Larvæ to be found in leaves of *Salix caprea* (J.A.B.); Chislehurst, Eltham (B.A.B.).

Ephippiphora gallicolana, Zell. — To be bred sparingly from oak-galls collected in the spring in Abbey Wood (J.A.B.); Eltham, Bexley (B.A.B.).

Ephippiphora obscurana, St.—Halfway Street (C.F.).

Semasia ianthinana, Dup.—Very abundant among hawthorn in July.—Plumstead Marshes (J.A.B.); Eltham (A.H.J.); Blackheath, Lewisham (W.W.); Dartford Heath, Lee, Chislehurst (B.A.B.); Westcombe Park (J.W.T.).

Semasia spiniana, Fisch.—Grove Park, Bexley common (C.F.); Lee (J.W.T.); Blackheath, Lewisham (W.W.).

Semasia rufillana, Wilk.—Grove Park and Lee (C.F.); Bexley, (B.A.B.).

Semasia wœberiana, Schif.—Common generally in gardens (C.F.).

Coccyx strobilella, L.—Lee (J.W.T.).

Coccyx splendidulana, Gn.—On oak-trunks in May.—Shooter's Hill (J.A.B.); Eltham, Lee, Joyden's Wood (C.F.).

Coccyx argyrana, Hüb.—Abundant with last species, and a little later (J.A.B.); Eltham (A.H.J.); Greenwich Park (W.W.).

Coccyx tædella, Cl.— Occasionally abundant on Bostall Heath among *Pinus abies* and larch (J.A.B.); Dartford Heath (B.A.B.).

Coccyx nanana, Treit.—Very abundant on Bostall Heath on *Pinus abies* (J.A.B.); Westcombe Park (J.W.T.); Dartford Heath fence (B.A.B.).

Heusimene fimbriana, Haw.—Chislehurst (B.A.B.).

Retinia buoliana, Schiff.—Very destructive to *Pinus sylvestris* on Bostall Heath (J.A.B.); Eltham (A.H.J.); Lewisham, one 1901 (R.A.); Blackheath (W.W.); Greenwich Park (J.W.T.).

Retinia pinicolana, Dbl. — Westcombe Park (J.W.T.); Dartford (Weston); Eltham (A.H.J.).

Retinia turionana, Hb.—Birch Wood (H.T.S.).

Retinia pinivorana, Zel.—Occurs with the preceding but not so abundantly (J.A.B.); Chislehurst, Bexley, Lee (B.A.B.).

Retinia sylvestrana, Curt.—Dartford Heath fence (B.A.B.).

Carpocapsa splendidana, Hüb.—To be bred freely from fallen acorns collected in Bostall Woods. Melanic specimens have been occasionally obtained (J.A.B.); Lee, Hither Green (C.F.); Eltham (A.H.J.); Shooter's Hill (W.W.); Chislehurst, Bexley (B.A.B.).

Carpocapsa grossana, Haw.—Among beech.—Shooter's Hill (J.A.B.); Bexley, scarce (C.F.).

Carpocapsa pomonella, L.—Seen frequently in greengrocer's shops of the town in July (J.A.B.); generally abundant (C.F.); Greenwich Park (W.W.).

Opadia funebrana, Tr.—To be bred from plums (J.A.B.); Bexley, Darenth (B.A.B.).

Endopisa nigricana, Stph.—Common among peas (J.A.B.); Plumstead (W.W.).

Stigmonota coniferana, Ratz. — Among *Pinus sylvestris.*—Bostall Heath (J.A.B.); Bexley, Chislehurst (B.A.B.).

Stigmonota internana, Gn.—Among furze.—Chislehurst, etc.(A.H.J.); Blackheath (W.W.).

Stigmonota compositella, Fab. — In fields of *Trifolium* (J.A.B.); Grove Park (A.H.J.); Kidbrook, Lee, Lewisham (W.W.); Chislehurst, Dartford Heath, Bexley, Eltham (B.A.B.).

Stigmonota trauniana, Schiff.— Plumstead formerly, now extinct (C.F.); Bexley (H.T.S.).

Stigmonota regiana, Z.—Common on the palings in early morning beneath sycamore.—Burrage Road, etc. (J.A.B.); Lee, Eltham (C.F.); Greenwich Park, Westcombe Park (J.W.T.); Lewisham, abundant locally (R.A.); Chislehurst (B.A.B.).

Stigmonota nitidana, Fb.—Woods.—Eltham (A.H.J.); Chislehurst, Bexley (B.A.B.).

Sigmonota roseticolana, Zell.—Larvæ abundant in ripe rose-hips in autumn (J.W.T.); Shooter's Hill Wood (J.A.B.); Black Fen (C.F.); Dartford (W.W.); Lee, Bexley, Eltham (B.A.B.).

Stigmonota germarana, Hb. — Halfway Street, common (C.F.); Eltham (A.H.J.).

Dichrorampha alpinana, Tr. (**politana,** Gn.). — Abundant among *Achillea millefolium.*—Plumstead Marshes (J.A.B.); common on all railway banks (C.F.); East Greenwich (W.W.).

Dichrorampha questionana, Z. (**alpinana,** Wilk).—In my garden, Plumstead (J.A.B.); Lee, common (C.F.); Greenwich (W.W.).

Dichrorampha saturnana, Gn.—Railway banks, Grove Park (A.H.J.).

Dichrorampha sequana, Hb.—Grove Park, railway bank, common (A.H.J.); East Greenwich, Brockley (W.W.); Black Fen (B.A.B.); Westcombe Park (J.W.T.).

Dichrorampha petiverella, L.—Abundant among *Achillea millefolium* (J.A.B.); Grove Park (A.H.J.); Beckenham (W.W.); Eltham, Bexley, Lee (B.A.B.).

Dichrorampha plumbagana, Tr.—Generally common (C.F.); East Greenwich (W.W.).

Dichrorampha plumbana, Scop.—Plumstead Marshes (J.A.B.); generally common (C.F.); Grove Park (A.H.J.); East Greenwich (W.W.).

Dichrorampha acuminatana, Tr.—Railway banks generally (J.A.B.).

Dichrorampha simpliciana, Haw.—Often to be seen flying in the late afternoon in July about *Artemisia vulgaris* at Plumstead, and occasionally bred with **E. fœnella** (J.A.B.); Eltham, Bexley, Dartford (C.F.); Charlton (H.T.S.); East Greenwich (W.W.).

Dichrorampha consortana, St.—Charlton (Weston).

Pyrodes rheediella, Clerck.—Flitting about whitethorn during sunshine.—Stony Hill Wood (J.A.B.); Greenwich, Shooter's Hill (J.W.T.); Eltham (A.H.J.); Plumstead, Lee, Dartford (W.W.); Chislehurst (B.A.B.).

Catoptria albersana, Hüb.—Sparingly among honeysuckle.—Dartford Heath (J.A.B.); Dartford (C.F.); Grove Pk., Chislehurst (B.A.B.).

Catoptria ulicetana, Haw.—Very abundant among *Ulex* (J.A.B.).

Catoptria juliana, Cust.—On isolated oaks Stony Hill, occasionally on fences even in the town itself (J.A.B.); Bexley, Eltham, scarce (C.F.); Lee (A.H.J.); Kidbrook (W.W.); Dartford Heath, Mottingham (B.A.B.).

Catoptria hypericana, Hüb.—Common in stem shoots of *Hypericum perforatum.*—Shooter's Hill, Abbey Wood (J.A.B.); Erith, Bexley, Dartford (C.F.); Plumstead (W.W.); Grove Park, Eltham (B.A.B.).

Catoptria conterminana, H.S.—Among *Lactuca virosa.*—Dartford Heath (A.H.J.); East Greenwich (W.W.).

Catoptria cana, Haw.—Plumstead Marshes among thistles (J.A.B.); Greenwich Marshes (W.W.); Grove Park (B.A.B.).

Catoptria scopoliana, Haw.—Flower-heads of *Centaurea nigra.*—Shooter's Hill (J.A.B.); not scarce (C.F.); Lee (W.W.); Bostall Heath (W.W.).

Catoptria æmulana, Schil. — Bostall Heath, Eltham (J.A.B.); Plumstead, Darenth (B.A.B.).

Catoptria tripoliana, Barr.—Larvæ scarce in flower-heads of *Aster tripolium* in autumn.—Beside the river on Plumstead Marshes (J.A.B.).

Trycheris aurana, Fb.—Joyden's Wood, scarce (C.F.); Eltham, St. Mary Cray (B.A.B.).

PYRALOIDIDÆ.

Choreutes myllerana, Fb.—Paul's Cray Common, not scarce (C.F.).

Simæthis pariana, Clerck. — Lewisham, formerly common (C.F.); Eltham (A.H.J.); Plumstead (W.W.); Lee, Bexley (B.A.B.).

Simæthis oxyacanthella, L.—Generally abundant (C.F.).

CONCHYLIDÆ.

Eupœcilia nana, Haw.—Common.—Bostall Heath, Shooter's Hill (J.A.B.); Bexley, Chislehurst (C.F.); Paul's Cray Common (A.H.J.); Blackheath Park (W.W.); Lee, Eltham (B.A.B.).

Eupœcilia dubitana, Hüb.—Shooter's Hill among *Solidago* (J.A.B.); Grove Park, Bexley (C.F.); Dartford Heath fence (A.H.J.).

Eupœcilia atricapitana, Stph.—To be bred from *Senecio jacobæa* from Plumstead Marshes (J.A.B.); Dartford (C.F.); Charlton (H.T.S.); East Greenwich (W.W.); Bexley (B.A.B.).

Eupœcilia maculosana, Haw.—Among *Scilla nutans.*—Abbey Wood (J.A.B.); Bexley, Eltham (C.F.).

Eupœcilia amandana, H.S.—Scarce.—Road to Darenth (W.W.).

Eupœcilia angustana, Treit.—Bostall Heath (J.A.B.); Paul's Cray Common (C.F.); Dartford Chalk Pit (A.H.J.); Plumstead (W.W.); Grove Park (B.A.B.).

Eupœcilia curvistrigana, Wilk.—To be bred freely from seed-heads of *Solidago* gathered in the autumn.—Joyden's Wood (J.A.B.); Dartford Heath, Darenth (B.A.B.).

Eupœcilia affinitana, Dgl. — Plumstead Marshes among *Aster tripolium,* occasionally common (J.A.B.).

Eupœcilia roseana, Haw. — Larvæ abundant in seed-heads of *Dipsacus sylvestris.*—Plumstead Marshes (J.A.B.); Dartford, East Greenwich (W.W.); Chislehurst (B.A.B.).

Eupœcilia subroseana, Haw. — Bred sparingly along with **E. curvistrigana** from seed-heads of *Solidago.*—Shooter's Hill, Joyden's Wood (J.A.B.).

Eupœcilia implicitana, H.S. — To be reared in profusion from seed-heads of *Anthemis*, etc., collected on Plumstead Marshes (J.A.B.); Grove Park, Eltham (C.F.); East Greenwich, Charlton (W.W.); Lee (B.A.B.); Westcombe Park (J.W.T.).

Eupœcilia anthemidana, Curt.—Westcombe Park (J.W.T.); Charlton (H.T.S.); Dartford, common (C.F.); East Greenwich (W.W.).

Commophila rugosana, Hüb. — Occurs sparingly where *Bryonia* grows.—Lee and Lewisham, formerly common, now rare, (C.F.); Plumstead Marshes, Shooter's Hill (J.A.B.); Eltham (A.H.J.); Lee, Eltham, Bexley, Mottingham (B.A.B.).

Xanthosetia zoegana, L.—Sparingly at Plumstead, among *Scabiosa columbaria* (J.A.B.); generally distributed (C.F.); Sidcup (A.H.J.); East Greenwich (W.W.).

Xanthosetia hamana, L.—Usually common among thistles.—Plumstead Marshes (J.A.B.); Distributed (C.F.); Eltham (A.H.J.); Lewisham (R.A.); Lee, Blackheath, East Greenwich (W.W.); Westcombe Park (J.W.T.).

Chrosis alcella, Schulz.—Orpington (J.W.T.).

Chrosis bifasciana, Hb.—Eltham, Joyden's Wood, scarce (C.F.).

Lobesia reliquana, Hb.—Eltham, Bexley, Darenth (B.A.B.).

Argyrolepia subbaumanniana, Wilk.—Orpington (J.W.T.).

Argyrolepia zephyrana, Tr.—A very small form bred from *Daucus* stems, from Plumstead Marshes (J.A.B.); East Greenwich (W.W.); Grove Park (B.A.B.).

Argyrolepia badiana, Hüb. — Among *Arctium lappa.* — Plumstead Marshes, Abbey Wood (J.A.B.); Greenwich (J.W.T.); Lee, Eltham, scarce (C.F.); Bexley (B.A.B.).

Conchylis dipoltella, Hb.—Charlton (H.T.S.).

Conchylis francillana, Fab.—To be had freely from stems of *Daucus carota* (J.A.B.); Charlton (H.T.S.); Lewisham, sparingly (R.A.); Lee (W.W.).

Conchylis dilucidana, Stph.—Larvæ very common in stems of *Peucedanum sativum* in late autumn. — Plumstead Marshes (J.A.B.).

Conchylis smeathmanniana, Fab.—Larvæ in seed-heads of *Achillea*, etc.— Plumstead Marshes (J.A.B.); Greenwich (J.W.T.); Lewisham (Weston); Lee, Eltham, Bexley (C.F.); Grove Park (B.A.B.); Westcombe Park (J.W.T.).

Conchylis straminea, Haw. — Plumstead Marshes (J.E.B.); Lee (W.W.); Eltham, Grove Park (B.A.B.).

APHELIIDÆ.

Aphelia osseana, Scop.—Dartford Heath (B.A.B.).

Tortricodes hyemana, Hb. (**tortricella,** Hüb.).—Shooter's Hill Wood (J.A.B.); Bexley, common (A.H.J.); Lewisham, sparingly (R.A.); Eltham, Chislehurst (B.A.B.).

EPIGRAPHIIDÆ.

Lemnatophila phryganella, Hb.—Generally distributed (B.A.B.).

Exapate congelatella, Clerck.—Eltham, common (B.A.B.).

Diurnea fagella, Fab.—Common generally, many dark examples occur (H.J.T.).

Semioscopus avellanella, Hb.—Chislehurst (H.J.T.); distributed (B.A.B.).

Epigraphia steinkellneriana, Schiff. — Farnborough (J.W.T.); Bexley, scarce (B.A.B.).

28. TINEIDES.

TINEIDÆ.

Ochsenheimeria vaculella, Fisch. — Lewisham (J.W.T.); Lee, Shooter's Hill, Mottingham, Chislehurst (B.A.B.).

Ochsenheimeria bisontella, Zell.—Dartford Heath (H.T.S.).

Ochsenheimeria birdella, Curt.—Lewisham (H.T.S.); Lee, common, Chislehurst (B.A.B.).

Scardia boleti, Fb.—Rare.—Bexley, Chislehurst (B.A.B.).

Scardia corticella, Curt. — Lee, Bexley, Blackheath, Chislehurst (B.A.B.).

Scardia parasitella, Hb.—Eltham, Bexley, Chislehurst (B.A.B.).

Scardia granella, L.—In most granaries and flour mills (B.A.B.).

Scardia cloacella, Haw.—Generally abundant (B.A.B.).

Scardia ruricolella, Stain.—Greenwich (J.W.T.); Lewisham (H.T.S.).

Scardia arcella, Fb.—Uncommon.—Bexley, Lee, Eltham, Chislehurst (B.A.B.).

Blabophanes ferruginella, Hb.—Westcombe Park (J.W.T.); generally distributed (B.A.B.).

Blabophanes rusticella, Hb.—Greenwich (J.W.T.); generally abundant (B.A.B.).

Tinea misella, Zell.—In most granaries (B.A.B.).

Tinea tapetzella, L.—Greenwich (J.W.T.); not common, Bexley, Eltham, Lee, Chislehurst (B.A.B.).

Tinea caprimulgella, H.S.—Blackheath (E.W.I.).

Tinea pellionella, L.—Greenwich (J.W.T.); generally common (B.A.B.).

Tinea lapella, Hb.—Generally common (B.A.B.).

Tinea fuscipunctella, Haw.—Greenwich (J.W.T.); generally common (B.A.B.).

Tinea argentimaculella, Stain. — Scarce. — Blackheath, Eltham, Sidcup (B.A.B.); Dartford Heath (H.T.S.).

Tinea merdella, Zell.—Greenwich (J.W.T.).

Tinea semifulvella, Haw.—Generally distributed (B.A.B.).

Tinea pallescentella, Stain.—Westcombe Park (J.W.T.).

Phylloporia bistrigella, Haw.—Uncommon.—Bexley, Eltham (B.A.B.).

Tineola biselliella, Hml. — Greenwich (J.W.T.); very common (B.A.B.).

ADELIDÆ.

Lampronia quadripunctella, Fab.—Not common.—Lee, Bexley, Eltham, Chislehurst (B.A.B.).

Lampronia luzella, Hb.—Eltham, Bexley, Chislehurst (B.A.B.).

Lampronia prælatella, Schiff.—Scarce.—Bexley (B.A.B.).

Lampronia rubiella, Bjerk.—Abundant.—Lee, Eltham, Bexley (B.A.B.); Westcombe Park (J.W.T.).

Incurvaria muscalella, Haw. — Generally distributed (B.A.B.); Shooter's Hill (J.W.T.).

Incurvaria tenuicornis, Sta.—Chislehurst (B.A.B.).

Incurvaria œhlmanniella, Hb. — Chislehurst, Eltham, Bexley (B.A.B.).

Incurvaria capitella, Clerck.—Locally abundant.—Lee, Chislehurst, Bexley, Eltham (B.A.B.).

Nemophora swammerdammella, L.—Common.—Bexley, Eltham, Chislehurst (B.A.B.); Lewisham, sparingly (R.A.).

Nemophora schwarziella, Zell. — Eltham, Bexley, Farningham (B.A.B.).

Adela rufimitrella, Scop.—Bexley, Eltham, Lee (B.A.B.).

Adela fibulella, Fab.—Common.—Eltham, Bexley (B.A.B.).

Adela viridella, L.—Shooter's Hill (J.W.T.). Abundant (B.A.B.).

Adela degeerella, L.—Lewisham (E.W.I.); Eltham, Bexley (B.A.B.).

Nematois fasciellus, Fb.—Darenth (B.A.B.).

HYPONOMEUTIDÆ.

Swammerdammia lutarea, Haw.—Westcombe Park (J.W.T.).

Swammerdammia combinella, Hb.—Scarce.—Eltham (B.A.B.).

Swammerdammia cæsiella, Hb.—Generally common (B.A.B.).

Swammerdammia oxyacanthella, Dup.—Generally common (B.A.B.).

Swammerdammia spiniella, Hb. — Not uncommon.—Lewisham (B.A.B.).

Swammerdammia pyrella, Vill.—Westcombe Park (J.W.T.); Generally cmmon (B.A.B.).

Scythropia cratægella, L.—Scarce.—Bexley (B.A.B.).

Hyponomeuta vigintipunctatus, Retz.—Lee (E.W.I.); Beckenham (H.T.S.).

Hyponomeuta padellus, L.—Westcombe Park (J.W.T.); Generally abundant (B.A.B.).

Hyponomeuta plumbellus, Schiff.—Beckenham (H.J.T.); Bexley, Blackheath, Chislehurst (B.A.B.).

Hyponomeuta cognagellus, Hb.—Lee, Bexley, common (B.A.B.).

Prays curtisellus, Don.— Westcombe Park (J.W.T.); Lewisham, fairly common (R.A.); Abbey Wood (H.J.T.).

PLUTELLIDÆ.

Eidophasia messingiella, Fisch.—Eltham, scarce (B.A.B.).

Plutella cruciferarum, Zell.—Generally common.—Westcombe Park (J.W.T.).

Plutella porrectella, L.—Not common.—Lee, Chislehurst (B.A.B.); Lewisham, very common formerly (R.A.).

Plutella annulatella, Curt.—Generally common (J.A.B.).

Cerostoma sequella, Clerck.—Scarce.—Near Farningham (B.A.B.).

Cerostoma vittella, L.—Westcombe Park (J.W.T.); widely distributed and common (B.A.B.).

Cerostoma radiatella, Don.—Generally abundant (B.A.B.).

Cerostoma costella, Fb.—Fairly common generally (B.A.B.).

Cerostoma sylvella, L.—Not common.—Chislehurst, Bexley, Eltham (B.A.B.).

Cerostoma alpella, Schiff.—Lewisham (H.T.S.).

Harpipteryx scabrella, L.—Common.—Beckenham, Bexley, Eltham, Chislehurst, Bromley (B.A.B.).

Harpipteryx nemorella, L.—Uncommon.—Bexley (B.A.B.).

Harpipteryx xylostella, L.—Generally abundant (B.A.B.).—Chislehurst, Lewisham (H.J.T.); Westcombe Park (J.W.T.).

Theristis mucronella, Scop. — Not common. — Eltham, Bexley (B.A.B.).

DEPRESSARIIDÆ.

Orthotælia sparganella, Thnb.—Common.—Lee (B.A.B.).

Enicostoma lobella, Schiff.—Abundant.—Kidbrook, Lee (B.A.B.); Lewisham (H.T.S.).

Phibalocera quercana, Fb.—Generally common (B.A.B.).—Lewisham, Abbey Wood (H.J.T.); Westcombe Park (J.W.T.).

Depressaria costosa, Haw.—Generally abundant (B.A.B.).—Blackheath (J.W.T.); Lewisham 1885 very common, sparingly since (R.A.).

Depressaria liturella, Tr.—Common.—Chislehurst, Lee, Bexley, Bromley, Eltham (B.A.B.).

Depressaria assimilella, Tr.—Common.—Lee, Dartford Heath (B.A.B.).

Depressaria nanatella, Sta.—Charlton (H.T.S.); Foot's Cray and Farningham, not uncommon (B.A.B.).

Depressaria scopariella, Hein.—Scarce.—Lee (B.A.B.).

Depressaria atomella, Hb.—Charlton (H.T.S.).

Depressaria arenella, Schiff.—Generally common (B.A.B.).

Depressaria propinquella, Tr.—Bexley, Eltham, Foot's Cray, common, Chislehurst (B.A.B.).

Depressaria subpropinquella, Sta.—Scarce.—Darenth (B.A.B.).

Depressaria alstrœmeriana, Clerck. — Not common. — Swanley (B.A.B.).

Depressaria purpurea, Haw.—Uncommon.—Green Street Green, Bexley, Swanley (B.A.B.).

Depressaria hypericella, Tr.—Lee, common (B.A.B.); Lewisham (H.T.S.).

Depressaria conterminella, Zell.—Generally abundant (B.A.B.).

Depressaria carduella, Hb.—Rare.—Bexley (B.A.B.); Dartford Heath (H.T.S.).

Depressaria ocellana, Fb.—Uncommon.—Eltham, Bexley, Chislehurst (B.A.B.).

Depressaria applana, Fb.—Generally abundant (B.A.B.).

Depressaria rotundella, Doug.—Near Farningham, common (B.A.B.).

Depressaria weirella, Sta.—Common.—Eltham, Darenth (B.A.B.).

Depressaria chærophylli, Zell.—Fairly common generally (B.A.B.).

Depressaria badiella, Hb.—Uncommon.—Dartford Heath, near Foot's Cray (B.A.B.).

Depressaria heracleana, D.C.—Generally common (B.A.B.).

GELECHIIDÆ.

Psoricoptera gibbosella, Zell.—Chislehurst (B.A.B.).

Gelechia velocella, Fisch.—Westcombe Park (J.W.T.).

Gelechia vilella, Zell.—Lewisham (H.T.S.); Chislehurst (B.A.B.).

Gelechia nigra, Haw.—Local and scarce.—Lee, Bexley (B.A.B.).

Gelechia malvella, Hb.—Chislehurst, Lee (B.A.B.).

Gelechia ericetella, Hb.—Abundant on heaths (B.A.B.).—Abbey Wood (H.J.T.);

Gelechia mulinella, Zell.—Blackheath (J.W.T.); Lee, Chislehurst, common (B.A.B.).

Gelechia sororculella, Hb.—Common.—Lee, Bexley, Eltham, Shooter's Hill, Chislehurst (B.A.B.).

Gelechia diffinis, Haw.—Westcombe Park (J.W.T.); Dartford Heath (H.T.S.); uncommon, Bexley, Chislehurst (B.A.B.).

Gelechia distinctella, Zell.—Uncommon.—Dartford Heath (B.A.B.).

Gelechia scalella, Scop.—Bexley, Shooter's Hill, Chislehurst (B.A.B.).

Gelechia rhombella, Schiff.—Lee (J.W.T); Bexley, common; Chislehurst (B.A.B.).

Brachmia mouffetella, Schiff.—Lee, Eltham, Bexley, Chislehurst, common (B.A.B.).

Bryotropha terrella, Hb.—Westcombe Park (J.W.T.); abundant (B.A.B.).

Bryotropha senectella, Zell.—Lewisham, Dartford Heath (H.T.S.); Lee (E.W.I.); Chislehurst (B.A.B.).

Bryotropha similis, Doug.—Westcombe Park (J.W.T.); Charlton (H.T.S.); Lee, rare (B.A.B.).

Bryotropha affinis, Doug.—Lewisham (H.T.S.); Lee, Charlton, Bexley, Mottingham, Chislehurst (B.A.B.).

Bryotropha basaltinella, Zell.—Darenth (B.A.B.).

Bryotropha domestica, Haw.—Westcombe Park (J.W.T.); Dartford Heath, scarce, Lee, Chislehurst (B.A.B.).

Lita costella, Westw.—Lewisham (H.T.S.); very local, Lee (B.A.B.).

Lita maculea, Haw.—Lewisham (H.T.S.); generally common (B.A.B.).

Lita tricolorella, Haw.—Lewisham (J.W.T.); generally common (B.A.B.).

Lita fraternella, Doug.—Lewisham (H.T.S.); Lee, Chislehurst, Eltham, locally common. (B.A.B.).

Lita acuminatella, Sirc.—Farningham, Bexley, not common (B.A.B.).

Lita maculiferella, Doug.—Lewisham (J.W.T.); Lee, Eltham (B.A.B.).

Lita artemisiella, Tr.—Bexley, near Farningham, fairly common (B.A.B.).

Lita obsoletella, Fisch.—Lee, scarce (B.A.B.).

Lita atriplicella, Fisch.—Greenwich Marshes (J.W.T.); generally common (B.A.B.).

Teleia proximella, Hb.—Generally abundant (B.A.B.).

Teleia fugitivella, Zell.—Lee (E.W.I.); abundant throughout (B.A.B.).

Teleia scriptella, Hb.—Lewisham (H.T.S.); Lee, Eltham, Kidbrook (B.A.B.).

Teleia humeralis, Zell.—Greenwich Marshes (J.W.T.).

Teleia notatella, Hb.—Chislehurst, Eltham, not uncommon (B.A.B.).

Teleia sequax, Haw.—Bexley, near Farningham, locally common (B.A.B.).

Teleia luculella, Hb.—Generally common (B.A.B.).

Teleia vulgella, Hb.—Westcombe Park (J.W.T.); Lee (E.W.I.); generally common (B.A.B.).

Teleia triparella, Zell.—Lewisham (H.T.S.); Lee, Kidbrook, fairly common (B.A.B.).

Teleia dodecella, L.—Not uncommon,—Lee, Bexley, Farningham (B.A.B.).

Recurvaria leucatella, Clerck.—Westcombe Park (J.W.T.); Lewisham (H.T.S.); Lee (E.W.I.); Bexley, Eltham, Blackheath, common, Grove Park (B.A.B.).

Recurvaria nanella, Hb.—Westcombe Park (J.W.T.); Lee, Bexley, Eltham, Charlton, Blackheath (B.A.B.).

Pœcilia nivea, Haw.—Westcombe Park (J.W.T.); Bexley, Eltham common, Chislehurst (B.A.B.).

Pœcilia albiceps, Zell.—Uncommon.—Eltham, Lee, Bexley, Grove Park (B.A.B.); Westcombe Park (J.W.T.); Lewisham (H.T.S.); Abbey Wood (H.J.T.).

Nannodia stipella, Hb.—Common.—Bexley, Lee, Chislehurst, Lewisham (B.A.B.).

Nannodia hermannella, Fb.—Common.—Lewisham, Lee, Eltham, Chislehurst, Bexley, Greenwich (B.A.B.).

Apodia bifractella, Mann.—Near Dartford, common (B.A.B.).

Sitotroga cerealella, Ol.—In all granaries (B.A.B.).

Ptocheuusa inopella, Zell.—Not uncommon (B.A.B.).

Ptocheuusa subocellea, St.—Near Farningham, common (B.A.B.).

Ergatis ericinella, Dup.—Dartford Heath, abundant, Chislehurst (B.A.B.).

Aristotelia servella, Z.—Shooter's Hill (B.A.B.).

Doryphora lutulentella, Zell.—Dartford Heath (H.T.S.).

Doryphora arundinetella, Zell.—Lee (E.W.I.).

Monochroa tenebrella, Hb.—Charlton (H.T.S.); Eltham, Lee, Dartford Heath, common (B.A.B.).

Lamprotes atrella, Haw.—Uncommon.—Chislehurst, Bexley, Lee (B.A.B.).

Anacampsis tæniolella, Tr.—Farningham, Lee, Bexley, common (B.A.B.).

Anacampsis anthyllidella, Hb.—Common.—Lee, Eltham, Bexley, Farningham (B.A.B.).

Acanthophila alacella, Dup.—Rare.—Bexley (B.A.B.).

Tachyptilia populella, Clerck.—Abundant throughout (B.A.B.).

Brachycrossata cinerella, Clerck.—Common.—Near Farningham, Bexley (B.A.B.).

Ceratophora rufescens, Haw.—Generally abundant (B.A.B.).

Cladodes gerronella, Zell.—Charlton (J.W.T.); Dartford Heath (H.T.S.); Scarce.—Chislehurst, Lee (B.A.B.).

Parasia lappella, L.—Bexley, uncommon (B.A.B.).

Cleodora cytisella, Curt.—Uncommon.—Bexley, Dartford Heath, Chislehurst (B.A.B.).

Cleodora striatella, Hb.—Lewisham (H.T.S.).

Chelaria hubnerella, Don.—Common.—Chislehurst, Bexley, Eltham (B.A.B.).

Anarsia spartiella, Schr.—Distributed on commons.—Blackheath (H.J.T.); Plumstead, Chislehurst (B.A.B.).

Anarsia genistæ, Sta.—Lee, rare (B.A.B.).

Sophronia parenthesella, L.—Uncommon.—Bexley, near Farningham (B.A.B.).

Pleurota bicostella, Clerck.—Abundant on heaths (B.A.B.).

Harpella geoffrella, L.—Generally common (B.A.B.).

Œcophora sulphurella, Fb.—Generally abundant (B.A.B.).

Amblypalpis olivierella, Fb.—Not uncommon.—Bexley, Lee, Blackheath, Chislehurst (B.A.B.); Westcombe Park (J.W.T.); Abbey Wood (H.J.T.).

Borkhausenia minutella, L.—Common.—Lee, Eltham (B.A.B.).

Borkhausenia lunaris, Haw.—Not common.—Lewisham (H.T.S.); Lee (J.W.D.); Bexley, Eltham, Chislehurst (B.A.B.).

Borkhausenia lambdella, Don.—Charlton (H.T.S.).

Borkhausenia fuscescens, Haw.—Common.—Lewisham (H.T.S.); Lee (J.W.D.); Bexley, Chislehurst, Eltham, Mottingham (B.A.B.).

Borkhausenia tripuncta, Haw.—Shooter's Hill (J.W.T.); not uncommon, Lewisham (B.A.B.).

Borkhausenia unitella, Hb.—Lee (J.W.D.); not common, Blackheath, Bexley, Chislehurst (B.A.B.).

Borkhausenia panzerella, Stain.—Lewisham (E.W.I.); Bexley, common (B.A.B.); Plumstead (*Ent.* XIII.).

Borkhausenia tinctella, Hb.—Westcombe Park (J.W.T.).

Borkhausenia augustella, Hb. — Scarce. — Bexley, Mottingham (B.A.B.).

Borkhausenia flavifrontella, Hb.—Scarce.—Bexley, Eltham, Chislehurst (B.A.B.)

Borkhausenia pseudospretella, Stain. — Common everywhere (J W.T.).

Œcogenia quadripunctata, Haw.—Lee, Eltham, scarce, Chislehurst (B.A.B.).

Endrosis fenestrella, Scop.—Too generally common (B.A.B.).

Butalis grandipennis, Haw.—Dartford Heath (E.W.I.).

Butalis senescens, Sta.—Common.—Near Farningham (B.A.B.).

Pancalia leuwenhoekella, L.—Common.—Bexley, near Farningham (B.A.B.).

GLYPHIPTERYGIDÆ.

Acrolepia pygmæana, Haw.—Abundant.—Lewisham (H.T.S.).

Rœslerstammia erxlebella, Pb.—Uncommon.—Eltham, Chislehurst, Bexley (B.A.B.)

Glyphipteryx fuscoviridella, Haw.—Generally abundant (B.A.B.).—Greenwich (J.W.T.), etc.

Glyphipteryx thrasonella, Scop.—Generally common.—Lee (B.A.B.).

Glyphipteryx equitella, Scop.—Gardens, among Stonecrop.—Greenwich, Westcombe Park (J.W.T.).

Glyphipteryx fischeriella, Zell.—Common.—Lee, Eltham (B.A.B.).

Æchmia dentella, Z.—Dartford Heath (B.A.B.).

Perittia obscurepunctella, Stain.—Scarce.—Lee (B.A.B.).

Heliozele sericiella, Haw.—Generally abundant (B.A.B.).

Heliozele resplendella, Doug.—Common.—Eltham, Chislehurst (B.A.B.); Dartford Heath (H.T.S.).

Heliozele betulæ, Wood.—Not uncommon.—Chislehurst (B.A.B.).

ARGYRESTHIIDÆ.

Argyresthia nitidella, Fb.—Abundant throughout (B.A.B.).—Westcombe Park (J.W.T.).

Argyresthia semitestacella, Curt.—Common.—Bexley, Chislehurst (B.A.B.).

Argyresthia albistria, Haw.—Generally common (B.A.B.).

Argyresthia conjugella, Zell.—Common.—Bexley (B.A.B.).

Argyresthia semifusca, Haw.—Not uncommon.—Bexley, Chislehurst, Lee, Eltham, Dartford Heath (B.A.B.).

Argyresthia mendica, Haw.—Uncommon.—Bexley (B.A.B.); Westcombe Park (J.W.T.).

Argyresthia glaucinella, Zell.—Scarce.—Bexley, Eltham (B.A.B.); Beckenham (H.T.S.).

Argyresthia retinella, Zell.—Generally abundant (B.A.B.).

Argyresthia dilectella, Zell.—Common.—Blackheath, Lee (B.A.B.).

Argyresthia curvella, L.—Common.—Charlton, Lee, Bexley, Chislehurst (B.A.B.); Westcombe Park (J.W.T.).

Argyresthia pygmæella, Hb.—Fairly common.—Chislehurst, Eltham, Lee, Bexley (B.A.B.).

Argyresthia gœdartella, L.—Generally abundant (B.A.B.).

Argyresthia brockeella, Hb.—Generally abundant (B.A.B.).

Argyresthia atmoriella, Bnks.—Uncommon.—Chislehurst, Bexley (B.A.B.).

Cedestis farinatella, Dup.—Common.—Bexley, Lee, Eltham, Chislehurst (B.A.B.).

Ocnerostoma piniarella, Zell.—Abundant.—Bexley (B.A.B.).

Zelleria hepariella, Mann.—Dartford Heath (H.T.S.).

Zelleria insignipennella, Stain.—Dartford Heath (H.T.S.).

GRACILARIIDÆ.

Gracilaria alchimiella, Scop.—Generally abundant (B.A.B.).

Gracilaria stigmatella, Fab.—Common.—Lee, Blackheath, Eltham, Bromley, Chislehurst (B.A.B.).

Gracilaria populetorum, Zell.—Birch Wood (H.T.S.).

Gracilaria elongella, L.—Not common.—Bexley, Eltham, Chislehurst (B.A.B.).

Gracilaria tringipennella, Zell.—Common.—Chislehurst, Lee (B.A.B.).

Gracilaria syringella, Fab.—Generally common (B.A.B.).—Westcombe Park (J.W.T.); Lewisham (A. M. Cochrane).

Gracilaria omissella, Doug.—Common.—Bexley, Eltham (B.A.B.); Dartford Heath (H.T.S.).

Gracilaria auroguttella, St.—Fairly common.—Lee, Bexley, Eltham (B.A.B.); Lewisham (H.T.S.).

Coriscium brongniartellum, Fab.—Scarce.—Bexley (B.A.B.).

Coriscium cuculipennellum, Hb.—Dartford Heath (H.T.S.).

Ornix avellanella, Sta.—Abundant.—Plumstead, Kidbrook, Eltham, Chislehurst (B.A.B.).

Ornix anglicella, Sta.—Common.—Lewisham, Eltham (B.A.B.); Westcombe Park (J.W.T.).

Ornix betulæ, Sta.—Common.—Chislehurst, Eltham, Bexley (B.A.B.).

Ornix scutulatella, Stain.—Dartford Heath (H.T.S.).

Ornix guttea, Haw.—Common.—Lee, Charlton, Eltham, Mottingham, Dartford Heath (B.A.B.).

COLEOPHORIDÆ.

Coleophora fabriciella, Vill.—Westcombe Park (J.W.T.); Lee (B.A.B.).

Coleophora deauratella, Lien.—Lee (B.A.B.).

Coleophora fuscocuprella, H.S.—Chislehurst (H.J.T.); Bexley, Eltham, Plumstead, (B.A.B.); Lewisham (H.T.S.).

Coleophora alcyonipennella, Kol. — Westcombe Park (J.W.T.); Chislehurst, Mottingham, Lee, Eltham (B.A.B.).

Coleophora orbitella, Zell. (**wilkinsoni,** Scott).—Lewisham (H.T.S.); Chislehurst, Bexley (B.A.B.).

Coleophora paripennella, Zell.—Westcombe Park (J.W T); Lee, Kidbrook, Chislehurst, Bexley (B.A.B.); Lewisham (H.T.S.).

Coleophora potentillæ, Stain.—Chislehurst (B.A.B.).

Coleophora pyrrhulipennella, Tisch.—Chislehurst (H.T.S.); Dartford (B.A.B.).

Coleophora albicosta, Haw.—Westcombe Park (J.W.T.); Chislehurst, Dartford (B.A.B.).

Coleophora palliatella, Zinck.—Eltham, Bexley (B.A.B.).

Coleophora anatipennella, Hb.—Lewisham (H.J.T.); Lee, Eltham, Chislehurst, Bexley (B.A.B.).

Coleophora currucipennella, Fisch.—Lewisham (H.T.S.).

Coleophora ibipennella, Heyd.—Westcombe Park (J.W.T.); Lewisham (H.T.S.); Bexley, Eltham, Chislehurst (B.A.B.).

Coleophora ardeæpennella, Scott.—Eltham, Bexley (B.A.B.).

Coleophora genistæ, Stain. — Dartford (H.T.S.); Chislehurst (B.A.B.).

Coleophora saturatella, Stain.—Keston (H.J.T.); Charlton (H.T.S); Lee (B.A.B.).

Coleophora niveicostella, Fisch.—Dartford Heath (H.T.S.).

Coleophora therinella, Teng.—Bromley (H.J.T.); Lee (B.A.B.).

Coleophora inflatæ, Stain.—Dartford (B.A.B.).

Coleophora troglodytella, Dup.—Eltham, Lee (B.A.B.).

Coleophora linoolea, Haw.—Lewisham (H.J.T.); Westcombe Park, Ladywell (J.W.T.); Mottingham, Bexley, Lee (B.A.B.).

Coleophora murinipennella, Fisch.—Westcombe Park (J.W.T.).

Coleophora cespititiella, Zell.—Hayes (H.J.T.).

Coleophora laripennella, Zett.—Bromley (H.J.T.); Lee, Lewisham (B.A.B.).

Coleophora hemerobiella, Scop.— Lewisham (H.J.T.); Charlton, Bexley (B.A.B.).

Coleophora argentula, Zell.—Charlton (H.T.S.); Lee, Mottingham (B.A.B.).

Coleophora virgaureæ, Stain.—Shooter's Hill, abundant. (H.J.T.).

Coleophora juncicolella, Stain.—Chislehurst (H.J.T.); Dartford Heath (B.A.B.).

Coleophora laricella, Hb.—Everywhere on larch (H.J.T.).

Coleophora albitarsella, Zell.—Lewisham, fairly common (H.J.T.); Lee, Chislehurst (B.A.B.).

Coleophora nigricella, St.—Common generally (H.J.T.).

Coleophora fuscedinella, Zell.—Abundant everywhere (J.W.T.).

Coleophora gryphipennella, Bouché.—Chislehurst (H.J.T.); Lee, Lewisham, Kidbrook (B.A.B.).

Coleophora siccifolia, Stain.—Westcombe Park (J.W.T.); Lewisham (H.T.S.).

Coleophora bicolorella, Scott.—Chislehurst (H.J.T.); Lewisham (H.T.S.); Lee, Eltham (B.A.B.).

Coleophora viminetella, Heyd. — Westcombe Park (J.W.T.); Eltham, Lewisham, Lee (B.A.B.).

Coleophora olivaceella, Stain.—Lewisham, rare (H.J.T.); Lee, Bexley, St. Mary Cray (B.A.B.).

Coleophora solitariella, Zell.—Lewisham, common (H.J.T.); Black Fen, Chislehurst, Lee (B.A.B.).

Coleophora lutipennella, Zell.—Westcombe Park (J.W.T.); Chislehurst (H.J.T.); Abbey Wood (H.T.S.); Eltham, Bexley (B.A.B.).

Coleophora badiipennella, Fisch. — Lewisham (H.J.T.); Erith, Mottingham (B.A.B.).

Coleophora limosipennella, Fisch.—Lewisham (H.J.T.); Abbey Wood (H.T.S.); Bexley, Black Fen (B.A.B.).

ELACHISTIDÆ.

Bedellia somnulentella, Zell.—Lewisham (H.T.S.).

Stathmopoda pedella, L.—Ravensbourne (H.T.S.); Lewisham (E.W.I.).

Cosmopteryx eximia, Haw.—Lewisham (H.T.S.).

Batrachedra preangusta, Haw.—Westcombe Park (J.W.T.); generally abundant (B.A.B.).

Batrachedra pinicolella, Dup.—Dartford Heath (H.T.S.); Bexley, Blackheath (B.A.B.).

Œnophila v—flava, Haw.—Scarce.—Beckenham (B.A.B.).

Chauliodus illigerellus, Hb.—Chislehurst (B.A.B.).

Laverna propinquella, Sta.—Uncommon.—Bexley (B.A.B.).

Laverna epilobiella, Schr.—Westcombe Park (J.W.T.); Generally abundant (B.A.B.).

Laverna ochraceella, Curt.—Lee, Eltham (B.A.B.).

Laverna subbistrigella, Haw.—Common.—Bexley, near Foot's Cray, Chislehurst (B.A.B.).

Laverna hellerella, Dup.—Common.—Lee, Bexley, Eltham, Chislehurst (B.A.B.).

Laverna atra, Haw.—Westcombe Park (J.W.T.).

Chrysoclista linneella, Clerck.—Common.—Lee, Eltham, Blackheath (B.A.B.); Greenwich (J.W.T.).

Chrysoclista bimaculella, Haw.—A single specimen, Eltham (B.A.B.).

Chrysoclista aurifrontella, Hb.—Abundant.—Eltham, Lee, Bexley, Chislehurst, Charlton (B.A.B.); Westcombe Park (J.W.T.).

Cataplectica fulviguttella, Zell.—Common.—Lee (B.A.B.).

Asychna modestella, Dup.—Fairly common.—Eltham (B.A.B.).

Asychna æratella, Zell.—Near Dartford (H.T.S.).

Chrysocorys festaliella, Hb.—Not uncommon.—Sidcup (B.A.B.).

Antispila pfeifferella, Hb.—Common.—Eltham, Bexley, Chislehurst, Lee (B.A.B.); Joyden's Wood (J.W.T.); Lewisham (H.T.S.).

Antispila treitschkiella, Fisch.—Common.—Lewisham (B.A.B.).

Elachista gleichenella, Fab.—Not common.—Bexley (B.A.B.); Dartford Heath (H.T.S.).

Elachista albifrontella, Hüb.—Common.—Lee, Eltham, Bexley (B.A.B.).

Elachista atricomella, Sta.—Uncommon.—Lee, Eltham (B.A.B.).

Elachista luticomella, Zell.—Common.—Lee, Beckenham, Eltham, Bexley (B.A.B.).

Elachista poæ, Doug.—Scarce.—Lewisham (B.A.B.); Greenwich Marshes (H.T.S.).

Elachista stabilella, Sta.—Scarce.—Bexley, Eltham (B.A.B.).

Elachista nigrella, Hb.—Common.—Eltham, Beckenham, Chislehurst (B.A.B.).

Elachista subnigrella, Doug.—Rare.—Eltham (B.A.B.).

Elachista perplexella, Sta.—Beckenham (H.T.S.).

Elachista obscurella, Sta.—Common.—Lee, Mottingham, Eltham, Bexley (B.A.B.).

Elachista zonariella, Tengr.—Uncommon.—Lee (B.A.B.).

Elachista gangabella, Fisch.—Beckenham, Dartford Heath (H.T.S.).

Elachista tæniatella, Sta.—Not common.—Dartford Heath (B.A.B.).

Elachista megerlella, Zell.—Fairly common.—Greenwich Marshes (J.W.T.); Eltham, Lee, Dartford Heath (B.A.B.).

Elachista adscitella, Sta.—Scarce.—Eltham (B.A.B.).

Elachista cerussella, Hb.—Uncommon.—Southend (B.A.B.).

Elachista biatomella, Sta.—Common.—Lee, near Farningham (B.A.B.).

Elachista pollinariella, Zell.—Not common.—Bexley (B.A.B.).

Elachista rufocinerea, Haw.—Generally abundant (B.A.B.).

Elachista subalbidella, Schl.—Common.—Chislehurst (B.A.B.).

Elachista argentella, Clerck.—Generally common (B.A.B.).—Blackheath, Westcombe Park, Lewisham, Hither Green (J.W.T.).

Tischeria complanella, Hb.—Generally abundant (B.A.B.).

Tischeria dodonæa, Heyd.—Abbey Wood (H.T.S.); Eltham, scarce (B.A.B.).

Tischeria marginea, Haw.—Abundant.—Chislehurst, Eltham, Bexley, Shooter's Hill, Mottingham (B.A.B.).

LITHOCOLLETIDÆ.

Lithocolletis amyotella, Dup.—Westcombe Park (J.W.T.).

Lithocolletis lantanella, Schr.—Abundant.—Bexley (B.A.B.).

Lithocolletis bremiella, Zell.—Bexley (H.T.S.); common (B.A.B.).

Lithocolletis lautella, Zell.—Uncommon.—Eltham, Chislehurst (B.A.B.).

Lithocolletis irradiella, Scott.—Beckenham (Ent.-Ann. 1855).

Lithocolletis cavella, Zell.—Fairly common.—Chislehurst, Bexley (B.A.B.).

Lithocolletis concomitella, Bnks.—Generally common (B.A.B.).

Lithocolletis oxyacanthæ, Frey.—Lee, Chislehurst, Bexley (B.A.B.). Westcombe Park (J.W.T.).

Lithocolletis sorbi, Frey.—Hither Green (B.A.B.).

Lithocolletis coryli, Nic.—Abundant.—Kidbrook, Bexley, Eltham (B.A.B.).

Lithocolletis spinicolelia, Kol.—Common.—Eltham (B.A.B.); Westcombe Park (J.W.T.).

Lithocolletis faginella, Mann.—Common.—Mottingham, Bexley (B.A.B.).

Lithocolletis mespilella, Hb.—Locally abundant (B.A.B.).—Shooter's Hill (J.W.T.); Lewisham (H.T.S.).

Lithocolletis cerasicolella, H.-S.—Abundant.—Bexley (B.A.B.).

Lithocolletis salicicolella, Sirc.—Common.—Eltham, Chislehurst (B.A.B.).

Lithocolletis viminetorum, Sta.—Common.—Lewisham (H.T.S.); Chislehurst (B.A.B.).

Lithocolletis carpinicolella, Sta.—Common.—Mottingham, Lewisham Bexley (B.A.B.).

Lithocolletis ulmifoliella, Hb.—Common generally (B.A.B.).—Dartford Heath (H.T.S.).

Lithocolletis spinolella, Dup. — Common. — Chislehurst, Eltham (B.A.B.); Wsetcombe Park (J.W.T.).

Lithocolletis quercifoliella, Fisch.—Generally abundant (B.A.B.).

Lithocolletis messaniella, Zell.— Common. — Charlton, Lewisham (B.A.B.); Westcombe Park (J.W.T.).

Lithocolletis corylifoliella, Haw.—Common.—Bexley, Lee, Lewisham (B.A.B.); Shooter's Hill (J.W.T.); Dartford Heath (E.W.I.).

Lithocolletis viminiella, Sirc. — Common.— Chislehurst, Eltham (B.A.B.).

Lithocolletis scopariella, Fisch.—Scarce.—Dartford Heath (H.T.S.); Lee (B.A.B.).

Lithocolletis ulicicolella, Vaugh.—Uncommon (B.A.B.).—Dartford Heath (H.T.S).

Lithocolletis alnifoliella, Hb.— Abundant.— Beckenham, Bexley, Eltham, Chislehurst (B.A.B.); Westcombe Park (J.W.T.).

Lithocolletis cramerella, Fab.—Generally abundant (B.A.B.).

Lithocolletis tenella, Zell.—Not uncommon.—Bexley, Mottingham, Lewisham (B.A.B.).

Lithocolletis sylvella, Haw.—Abundant.—Lewisham (H.T.S.); Mottingham, Kidbrook, Eltham, Bexley, Lee (B.A.B.).

Lithocolletis emberizæpennella, Bouché. — Common. — Bexley, Eltham, Chislehurst (B.A.B.).

Lithocolletis nicellii, Zell. — Not common. — Plumstead, Bexley, Eltham, Lee, (B.A.B.).

Lithocolletis stettinensis, Nic. — Not uncommon. — Beckenham (H.T.S.); Eltham (B.A.B.).

Lithocolletis schreberella, Fab.—Abundant.—Lewisham (H.T.S.); Chislehurst, Lee, Eltham, Mottingham (B.A.B.).

Lithocolletis tristrigella, Haw.—Local and not common.—Lewisham, Bexley (B.A.B.).

Lithocolletis trifasciella, Haw.—Fairly common.—Bexley, Lee, Chislehurst, Dartford Heath (B.A.B.).

Lithocolletis comparella, Fisch.— Abundant.— Beckenham, Lee, Chislehurst, Eltham, Blackheath (B.A.B.).

LYONETIIDÆ.

Lyonetia clerckella, L.—Not uncommon.—Bexley, Chislehurst (B.A.B.).

Phyllocnistis suffusella, Zell.—Abundant.—Beckenham, Lee, Bexley, Chislehurst, Mottingham (B.A.B.).

Phyllocnistis saligna, Zell.—Common.—Chislehurst (B.A.B.) .

Cemiostoma spartifoliella, Hb.—Abundant.—Lee (B.A.B.).

Cemiostoma laburnella, Heyd.—Abundant.—Lewisham (A.M. Cochrane), Lee, Eltham, Blackheath (B.A.B.).

Cemiostoma scitella, Zell.—Abundant.—Lee, Bexley, Lewisham (B.A.B.); Westcombe Park (J.W.T.).

Opostega saliciella, Tr.—Not common.—Dartford Heath (H.T.S.); Bexley, Lee (B.A.B.).

Bucculatrix nigricomella, Zell.—Abundant.—Mottingham, Chislehurst, Lee (B.A.B.).

Bucculatrix cidarella, Tisch. — Uncommon. — Eltham, Bexley (B.A.B.).

Bucculatrix ulmella, Mann.—Abundant.—Bexley (B.A.B.).

Bucculatrix cratægi, Zeller.—Not common.—Bexley (B.A.B.); Lewisham (H.T.S.).

Bucculatrix boyerella, Dup.—Uncommon.—Bexley, Lee, Sidcup, Grove Park, Mottingham, Eltham (B.A.B.).

Bucculatrix frangulella, Gœze.—Abundant.—Darenth (B.A.B.).

Bucculatrix thoracella, Thnb.—Scarce.—Bexley (B.A.B.).

Bucculatrix cristatella, Fisch.—Abundant.—Lee, Bexley (B.A.B.).

NEPTICULIDÆ.

Nepticula atricapitella, Haw.—Lewisham, Beckenham (H.T.S.); Chislehurst, Eltham (B.A.B.).

Nepticula ruficapitella, Haw.—Lewisham, Beckenham (H.T.S.); Eltham (B.A.B.).

Nepticula pomella, Vaughan.—Lewisham (H.T.S.).

Nepticula pygmæella, Frey.—Lewisham (H.T.S.); Mottingham, common (B.A.B.).

Nepticula viscerella, Stain.—Not uncommon.—Lewisham (B.A.B.); Chislehurst, (B.A.B.).

Nepticula catharticella, Sta.—Abundant.—Chislehurst, Lee (B.A.B.).

Nepticula oxyacanthella, Stain. — Lewisham, Dartford Heath (H.T.S.); Charlton (J.W.D.); Mottingham, Chislehurst (B.A.B.); Westcombe Park (J.W.T.).

Nepticula anomalella, Goeze.—Abundant.—Beckenham (H.T.S.), Lewisham, Lee, Chislehurst (B.A.B.).

Nepticula basiguttella, Hein.—Local.—West Wickham dist. (Sang.).

Nepticula regiella, H.S.—Dartford Heath (H.T.S.); Chislehurst (B.A.B.).

Nepticula aurella, Fab.—Generally abundant (B.A.B.).—Lewisham (H.T.S.); Westcombe Park, etc. (J.W.T.)

Nepticula fragariella, Heyd.—Uncommon.—Chislehurst (B.A.B.).

Nepticula gei, Wock.—Chislehurst (B.A.B.).

Nepticula gratiosella, Zell.—Lewisham (H.T.S.).

Nepticula marginicolella, Stain. — Not uncommon. — Lewisham, Chislehurst (B.A.B.).

Nepticula alnetella, Stain.— Locally common.— Eltham (B.A.B.); Lewisham (H.T.S.).

Nepticula continuella, Stain.—Lewisham (H.T.S.).

Nepticula betulicola, Stain.—Abundant.—Chislehurst (B.A.B.).

Nepticula plagicolella, Stain. — Common. — Lewisham, Dartford Heath (H.T.S.); Eltham, Chislehurst (B.A.B.).

Nepticula microtheriella, Stain.—Abundant.—Lewisham (H.T.S.); Plumstead (Machin); Eltham (B.A.B.).

Nepticula ignobilella, Stain. — Lewisham (H.T.S.); Beckenham (Elisha).

Nepticula glutinosæ, Stain.—Locally common.—Eltham (B.A.B.).

Nepticula luteella, Stain.—Dartford Heath, Lewisham (H.T.S.).

Nepticula argentipedella, Zell. — Abundant. — Dartford Heath (H.T.S.); Chislehurst, Eltham, Bexley (B.A.B.).

Nepticula turicella, H.S.—Bexley (B.A.B.).

Nepticula basalella, H.S.—Lewisham (H.T.S.).

Nepticula tityrella, Doug.—Abundant.—Bexley (B.A.B.).

Nepticula malella, Stain.—Lewisham (H.T.S.).

Nepticula angulifasciella, Stain.—Lewisham, Beckenham (H.T.S.).

Nepticula salicis, Stain.—Common.—Lewisham (H.T.S.); Eltham, Chislehurst (B.A.B.).

Nepticula floslactella, Haw.—Common.—Lewisham (H.T.S.); Bexley, Eltham (B.A.B.); Westcombe Park (J.W.T.).

Nepticula argyropeza, Zell.—Beckenham (H.T.S.).

Nepticula subapicella, Stain.—Beckenham (H.T.S.).

Nepticula pulverosella, Stain.—Lewisham (H.T.S.); Eltham (B.A.B.).

Nepticula septembrella, Stain.—Lewisham, Beckenham (H.T.S.).

Nepticula catharticella, Stain.—Abundant.—Lewisham (H.T.S.); Lee (B.A.B.).

Nepticula intimella, Zell.—Dartford Heath (H.T.S.).

Nepticula quinquella, Bedell.—Beckenham (H.T.S.).

Nepticula sericopeza, Zell.—Dartford Heath, Lewisham (H.T.S.).

Nepticula trimaculella, Haw.—Lewisham (H.T.S.); Lee, Eltham, Chislehurst, Bexley, Beckenham (B.A.B.).

Nepticula subbimaculella, Haw.—Uncommon.—Lewisham (H.T.S.); Chislehurst (B.A.B.).

Trifurcula immundella, Zell.—Abundant.—Charlton, Dartford Heath (H.T.S.); Lee (B.A.B.).

Trifurcula atrifrontella, Stain.—Rare.—Lewisham (H.T.S.); Bexley (B.A.B.).

Trifurcula squamatella, Sta.—Charlton (H.T.S.).

PSYCHIDÆ.

Narycia monilifera, Geoff.—Eltham, Lee, Chislehurst, Bexley (B.A.B.); Dartford Heath (H.T.S.).

Diplodoma herminata, Geoff.—Bexley (B.A.B.); Plumstead (Butterfield).

Solenobia inconspicuella, Stain.—Bexley (B.A.B.); Plumstead (Butterfield).

Taleporia tubulosa, Retz.—Lewisham (H.J.T.); Lee (J.W.T.); Bexley, Eltham, Chislehurst (B.A.B.).

Luffia ferchaultella, Steph.—Lewisham (H.T.S.); Darenth (B.A.B.).

Fumea casta, Pall.—Westcombe Park (J.W.T.); Farnborough (Alderson); Mottingham, Bexley, Sidcup, Eltham (B.A.B.); Dartford (Studd); Plumstead (Butterfield); Lewisham, fairly common 1899 (R.A.).

Epichnopteryx pulla, Esp.—Dartford Heath (Stephens).

MICROPTERYGIDÆ.

Micropteryx calthella, L.—Generally common (B.A.B.).

Micropteryx seppella, Fab.—Eltham, Bexley, Farningham (B.A.B.).

Micropteryx aureatella, Scop.—Scarce.—Chislehurst (B.A.B.).

Micropteryx thunbergella, Fab.—Not common.—Bexley, Eltham (B.A.B.).

Micropteryx sangii, Wood.—Scarce.—Bexley, Chislehurst (B.A.B.).

ERIOCRANIIDÆ.

Eriocrania sparmannella, Bosc. — Not common. — Chislehurst (H.J.T.); Bexley, Eltham (B.A.B.).

Eriocrania subpurpurella, Haw.—Abundant (B.A.B.).—Farnborough (J.W.T.); Beckenham (H.T.S.).

Eriocrania unimaculella, Zett.—Abundant.—(B.A.B.).—Chislehurst (H.T.S.).

DIPTERA (Flies).

It is rather unfortunate that the district has never been properly worked for Diptera, and that the list offered must be looked upon as at the best a very incomplete instalment of the number of the species actually to be found in the district. It is composed almost entirely of two lists, one by H. W. Andrews, F.E.S., of Welling, and the other (Nematocera) by Stanley Edwards F.Z.S., F.L.S., F.E.S., of Blackheath. Mr. Andrews, writing of his share in the list, says that it "cannot be taken as a complete one of the district, it merely records those I have personally met with, and those specially recorded in Verrall's "British Flies, Syrphidæ," and his annotated "List of British Dolichopodidæ," as occurring in the district. I have not so far attempted many families, and have not touched the Nematocera at all." A few records by H. J. Turner are the only addition to these notes. H. W. Andrews' records are not initialled. Of the others :—

S.E. = Stanley Edwards, F.Z.S., F.L.S., F.E.S.
H.J.T. = Henry J. Turner, F.E.S.

It is trusted, however, that this may form a basis for a more complete list by future workers.

NEMATOCERA.

PULICIDÆ

Pulex irritans, L.—Blackheath (S.E.).
Pulex gallinæ, Bouché.—Blackheath (S.E.).
Pulex felis, Bouché.—Blackheath (S.E.).

CECIDOMYIDÆ.

Cecidomyia brassicæ, Winn.—Blackheath (S.E.).
Cecidomyia persicariæ, L.—Blackheath (S.E.).
Cecidomyia pyri, Bouché.—Blackheath (S.E.).
Cecidomyia urticæ, Perr.—Blackheath (S.E.).

MYCETOPHILIDÆ.

Sciaria flavipes, Pz.—Blackheath (S.E.).

BIBIONIDÆ.

Bibio marci, L.—Abbey Wood, Chislehurst (H.J.T.).
Bibio pomonæ, Fab.—Blackheath (S.E.).
Bibio hortulanus, L.—Blackheath (S.E.).

CHIRONOMIDÆ.

Chironomus plumosus, L.—Blackheath (S.E.).
Chironomus rufipes, L.—Blackheath (S.E.).

PSYCHODIDÆ.

Psychoda phalænoides, L.—Blackheath (S.E.).
Psychoda albipennis, Ztt.—Blackheath (S.E.).

CULICIDÆ.

Culex pipiens, L.—Blackheath (S.E.).
Culex nemorosus, Mg.—Blackheath (S.E).
Culex vexans, Mg.—Blackheath (S.E.).
Culex cantans, Mg.—Blackheath (S.E.).
Culex annulatus, Schrk.—Blackheath (S.E.).

DIXIDÆ.

Dixa æstivalis, Mg.—Blackheath (S.E.).
Dixa maculata, Mg.—Blackheath (S.E.).

TIPULIDÆ.

Dolichopeza sylvicola, Curt.—Blackheath (S.E.).
Tipula oleracea, L.—Blackheath (S.E.).
Tipula hortensis, Mg.—Blackheath (S.E.).
Tipula luteipennis, Mg.—Blackheath (S.E.).
Tipula vittata, Mg.—Blackheath (S.E.).
Tipula ochracea, Mg.—Blackheath (S.E.).
Tipula vernalis, Mg.—Blackheath (S.E.).
Tipula gigantea, Schrnk.—Hayes (H.J.T.).

BRACHYCERA.

STRATIOMYIDÆ.

Nemotelus pantherinus, L.—Thames Marshes.
Nemotelus uliginosus, L.—Thames Marshes, very common.
Oxycera trilineata, F.—Thames Marshes.
Stratiomys furcata, F.—Thames Marshes.
Stratiomys longicornis, Scop.—Thames Marshes, larvæ not uncommon, 1904.

Odontomyia viridula, F.—Thames Marshes.
Sargus cuprarius, L.—Eltham, Thames Marshes.
Sargus iridatus, Scop.—Eltham.
Chloromyia formosa, Scop.—Generally distributed, common.
Microchrysa polita, L.—Chislehurst, Thames Marshes.
Microchrysa flavicornis, Mg.—Thames Marshes.
Beris chalybeata, Forst.—Bexley.
Beris vallata, Forst.—Eltham.

TABANIDÆ.

Hæmatopota pluvialis, L.—Thames Marshes, common.
Tabanus autumnalis, L.—Eltham.
Chrysops cæcutiens, L.—Farningham.
Chrysops relicta, Mg.—Thames Marshes.

LEPTIDÆ.

Leptis scolopacea, L.—Chislehurst.
Leptis tringaria, L.—Eltham.
Leptis lineola, F.—Abbey Wood.
Chrysopilus auratus, F.—Eltham.

ASILIDÆ.

Leptogaster cylindrica, Deg.—Eltham.
Dioctria atricapilla, Mg.—Eltham.
Dioctria rufipes, Deg.—Eltham, Thames Marshes; fairly common.
Dioctria baumhaueri, Mg.—Eltham.
Laphria marginata, L.—Eltham.
Neoitamus cyanurus, Lw.—Bexley.
Machimus atricapillus, Fln.—Farningham.

BOMBYLIIDÆ.

Bombylius discolor, Mik.—Bexley.
Bombylius major, L.—Bexley, Farningham.

THEREVIDÆ

Thereva nobilitata, F.—Bexley, Thames Marshes.

EMPIDÆ.

Empis tessellata, F.—Generally distributed.
Empis stercorea, L.—Shooter's Hill.
Empis pennipes, L.—Bexley.
Empis trigramma, Mg.—Eltham.

DOLICHOPODIDÆ.

Psilopus longulus, Fln.—Abbey Wood.
Hygroceleuthus diadema, Hal.—Thames Marshes.
Dolichopus nubilus, Mg.—Thames Marshes.
Dolichopus latelimbatus, Mcq.—Thames Marshes.
Dolichopus discifer, Stan.—Thames Marshes.
Dolichopus plumipes, Scop.—Thames Marshes.
Dolichopus griseipennis, Stan.—Thames Marshes.
Dolichopus festivus, Hal.—Thames Marshes.
Dolichopus æneus, Deg.—Thames Marshes.
Pœcilobothrus nobilitatus, L.—Thames Marshes.
Hercostomus nigripennis, Fln.—Farningham.
Hercostomus plagiatus, Lw.—Thames Marshes (Verrall).
Hercostomus atrovirens, Lw.—Foots Cray (Verrall).
Orthochile nigrocœrulea, Ltr.—Lee (Verrall).
Argyra diaphana, F.—Chislehurst.
Argyra argyria, Mg.—Thames Marshes.
Argyra leucocephala, Mg.—Chislehurst.
Porphyrops spinicoxa, Lw.—Farningham.
Porphyrops consobrina, Ztt.—Thames Marshes.
Porphyrops prærosa, Lw.—Farningham.
Syntormon pallipes, F.—Thames Marshes.
Machærium maritimæ, Hal.—Thames Marshes.
Medeterus pallipes, Ztt.—Lee (Verrall).
Scellus notatus, F.—Thames Marshes.

PROBOSCIDEA.

PLATYPEZIDÆ.

Platycnema pulicaria, Fln.—Foots Cray (Verrall).
Platypeza consobrina, Ztt.—St. Mary Cray (Verrall).

Platypeza modesta, Ztt.—Bexley, St. Mary Cray (Verrall).
Platypeza rufa, Mg.—St. Mary Cray (Verrall); Bexley.
Platypeza fasciata, Mg.—St. Mary Cray (Verrall).

PIPUNCULIDÆ.

Verrallia pilosa, Ztt.—Abbey Wood.
Verrallia aucta, Fln.—Abbey Wood.
Pipunculus furcatus, Egg.—St. Mary Cray (Verrall).
Pipunculus zonatus, Ztt.—St. Mary Cray (Verrall).
Pipunculus unicolor, Ztt.—Thames Marshes.
Pipunculus hæmorrhoidalis, Ztt.—Abbey Wood (Verrall).
Pipunculus geniculatus, Mg.—Thames Marshes.

SYRPHIDÆ.

Pipizella virens, F.—Farningham, Thames Marshes, Lullingstone Park; not uncommon.
Pipiza luteitarsis, Ztt.—Eltham.
Pipiza noctiluca, L.—Bexley, Welling.
Liogaster metallina, F.—Bexley, Thames Marshes.
Chrysogaster hirtella, Lw.—Lullingstone Park, Eltham.
Chilosia sparsa, Lw.—Bexley.
Chilosia pulchripes, Lw.—Eltham.
Chilosia variabilis, Pz.—Bexley, Eltham, Thames Marshes; common.
Chilosia albitarsis, Mg.—Bexley, Eltham, Thames Marshes; common.
Chilosia bergenstammi, Beck.—Bexley.
Chilosia præcox, Ztt.—Farningham.
Chilosia mutabilis, Fln.—Farningham, Welling.
Chilosia proxima, Ztt.—Thames Marshes.
Platychirus manicatus, Mg.—Generally distributed; common.
Platychirus peltatus, Mg.—Bexley, Farningham, Thames Marshes; fairly common.
Platychirus scutatus, Mg.—Generally distributed; common.
Platychirus albimanus, F.—Generally distributed; common.
Platychirus clypeatus, Mg.—Eltham, Bexley, Thames Marshes; common in the Marshes.

Platychirus angustatus, Ztt.—Bexley, Thames Marshes; common in the Marshes.

Platychirus fulviventris, Mcq.—Thames Marshes.

Platychirus sticticus, Mg.—Eltham.

Pyrophæna granditarsa, Forst.—Thames Marshes; not uncommon.

Melanostoma ambiguum, Fln.—Bexley, Farningham.

Melanostoma mellinum, L.—Generally distributed; common.

Melanostoma scalare, F.—Generally distributed; common.

Melangyna quadrimaculata, Verr.—Farningham.

Leucozona lucorum, L.—Bexley, Chislehurst.

Didea fasciata, Mcq.—Bexley.

Catabomba pyrastri, L.—Generally distributed.

Catabomba selenitica, Mg.—Eltham.

Syrphus albostriatus, Fln.—Eltham, Farningham.

Syrphus tricinctus, Fln.—Farningham, Bexley.

Syrphus venustus, Mg.—Eltham, Chislehurst.

Syrphus torvus, O-S.—Farningham.

Syrphus ribesii, L.—Generally distributed; common.

Syrphus vitripennis, Mg.—Generally distributed; common.

Syrphus latifasciatus, Mcq.—Eltham.

Syrphus nitidicollis, Mg.—Eltham, Bexley.

Syrphus corollæ, F.—Generally distributed; common.

Syrphus luniger, Mg.—Generally distributed; common.

Syrphus bifasciatus, F.—Generally distributed; not uncommon.

Syrphus balteatus, Deg.—Generally distributed; common.

Syrphus cinctellus, Ztt.—Chislehurst.

Syrphus auricollis, Mg.—Eltham, Bexley, Farningham.

Syrphus umbellatarum, F.—Abbey Wood Marshes (Verrall.).

Syrphus lasiopthalmus, Ztt.—Bexley, Farningham, not uncommon.

Syrphus barbifrons, Fln.—Bexley, Sidcup.

Sphærophoria scripta, L.—Generally distributed; common.

Sphærophoria flavicauda, Ztt.—Thames Marshes.

Xanthogramma ornatum, Mg.—Eltham.

Xanthogramma citrofasciatum, Deg.—Sidcup.

Baccha obscuripennis, Mg.—Bexley, Chelsfield.

Ascia podagrica, F.—Generally distributed; common.

Rhingia campestris, Mg.—Generally distributed; common.

Volucella bombylans, L.—Thames Marshes.
Volucella pellucens, L.—Eltham, Bexley.
Eristalis sepulchralis, L.—Eltham, Thames Marshes; common in the Marshes.
Eristalis tenax, L.—Generally distributed; common.
Eristalis intricarius, L.—Welling.
Eristalis intricarius, var. **furvus,** Verr.—Thames Marshes.
Eristalis arbustorum, L.—Generally distributed; common.
Eristalis pertinax, Scop.—Generally distributed; common.
Eristalis horticola, Deg.—Bexley.
Myiatropa florea, L.—Bexley, Farningham.
Helophilus trivittatus, F.—New Eltham, Thames Marshes.
Helophilus hybridus, Lw.—Thames Marshes, Welling.
Helophilus lunulatus, Mg.—Plumstead Marshes (Beaumont.).
Helophilus transfugus, L.—Charlton (Verrall.).
Helophilus vittatus, Mg.—Thames Marshes.
Merodon equestris, F.—Eltham.
Tropidia scita, Harr.—Thames Marshes.
Criorrhina berberina, F.—Bexley.
Criorrhina oxyacanthae, Mg.—Bexley, Chislehurst.
Criorrhina floccosa, Mg.—Eltham.
Criorrhina asilica, Fln.—Chislehurst.
Xylota segnis, L.—Bexley, Farningham.
Syritta pipiens, L.—Generally distributed; common.
Eumerus strigatus, Fln.—Abbey Wood, Lee (Verrall.).
Chrysochlamys cuprea, Scop.—Welling, Sidcup.
Chrysotoxum cautum, Harr.—Eltham, Welling.
Chrysotoxum octomaculatum, Curt.—Eltham, Bexley.
Chrysotoxum festivum, L.—Bexley.

CONOPIDÆ.

Sicus ferrugineus, L.—Bexley.
Myopa buccata, L.—Chelsfield.
Myopa testacea, L.—Farningham.

TACHINIDÆ.

Thelaira leucozona, Pz.—Thames Marshes.
Oliviera lateralis, F.—Generally distributed.

Micropalpus pudicus, Rnd.—Sidcup.
Trixa æstroidea, Dsv.—Thames Marshes.
Sarcophaga carnaria, L.—Generally distributed; common.
Miltogramma punctatum, Mg.—New Eltham.
Metopia leucocephala, Rossi.—Farningham.
Dexiosoma caninum, F.—Bexley.

MUSCIDÆ.

Hæmatobia stimulans, Mg.—Eltham.
Myiospila meditabunda, F.—Thames Marshes.
Graphomyia maculata, Scop.—Eltham.
Musca domestica, L.—Generally distributed; very common.
Musca corvina, F.—Generally distributed; common.
Cyrtoneura stabulans, Fln.—Thames Marshes.
Cyrtoneura cæsia, Mg.—Chislehurst.
Morellia simplex, Lw.—Generally distributed; common.
Pyrellia cadaverina, Ztt.—Chislehurst.
Protocalliphora grœnlandica, Ztt.—Thames Marshes.
Calliphora erythrocephala, Mg.—Generally distributed; common.
Calliphora vomitoria, L.—Generally distributed; common.
Lucilia cæsar, L.—Generally distributed; common.
Lucilia sylvarum, Mg.—Sidcup.
Lucilia ruficeps, Mg.—Eltham.
Lucilia regina, Mg.—Eltham.

ANTHOMYIIDÆ.

Polietes lardaria, F.—Generally distributed.
Polietes albolineata, Fln.—Eltham.
Hyetodesia incana, W.—Thames Marshes.
Hyetodesia lucorum, Fln.—Generally distributed; common.
Hyetodesia marmorata, Ztt.—Lullingstone Park.
Hyetodesia obscurata, Mg.—Thames Marshes.
Hyetodesia consobrina, Ztt.—Thames Marshes.
Hyetodesia læta. Mg.—Eltham, Thames Marshes.
Hyetodesia errans, Mg.—Thames Marshes.
Hyetodesia erratica, Fln.—Chislehurst; common.
Hyetodesia variegata, Mg.—Bexley.

Hyetodesia scutellaris, Fln.—Eltham, Chislehurst.
Mydea impuncta, Fln.—Lullingstone Park.
Spilogaster maculosa, Mg.—Bexley.
Hydrotæa irritans, Fln.—Thames Marshes.
Hydrotæa dentipes, F.—Generally distributed; common.
Hydrotæa occulta, Mg.—Bexley.
Ophyra leucostoma, W.—Eltham.
Hydrophoria divisa, Mg.—Thames Marshes.
Hydrophoria conica, W.—Bexley.
Hylemyia pullula, Ztt.—Thames Marshes.
Hylemyia strigosa, F.—Generally distributed; common.
Hylemyia coarctata, Fln.—Thames Marshes.
Anthomyia pluvialis, L.—Generally distributed.
Anthomyia pratincola, Pz.—Thames Marshes.
Phorbia floccosa, Mcq.—Welling.
Pegomyia bicolor, W.—Eltham.
Homalomyia monilis, Hal.—Bexley.
Homalomyia canicularis, L.—Welling.
Homalomyia hamata, Mcq.—Eltham, Bexley.
Azelia macquarti, Stacg.—Welling.

CORDYLURIDÆ.

Cnemopogon apicalis, Mg.—Thames Marshes.
Scatophaga stercoraria, L.—Generally distributed; common.

HELOMYZIDÆ.

Blepharoptera inscripta, Mg.—Lullingstone Park.
Blepharoptera ruficeps,Mg.—Lullingstone Park.
Tephrochlamys rufiventris, Mg.—Bexley.

SCIOMYZIDÆ.

Limnia marginata, F.—Thames Marshes; common.
Elgiva dorsalis, F.—Chislehurst.
Sepedon sphegeus, F.—Thames Marshes.

PSILIDÆ.

Loxocera aristata, Pz.—Eltham.

ORTALIDÆ.

Ceroxys pictus, Mg.—Thames Marshes ; common.
Ceroxys crassipennis, F.—Thames Marshes.
Ceroxys omissus, Mg.—Thames Marshes.
Anacampta urticæ, L.—Thames Marshes.
Platystoma seminationis, F.—Eltham.
Seoptera vibrans, L.—Bexley.

TRYPETIDÆ.

Acidia lychnidis, F.—Eltham.
Spilographa zoe, Mg.—Eltham. Welling.
Tephritis miliaria, Schrk.—Chislehurst.

LONCHÆIDÆ.

Lonchæa vaginalis, Fln.—Eltham, Bexley.
Palloptera umbellatarum, Fab.—Eltham.

SAPROMYZIDÆ.

Sapromyza fasciata, Fln.—Thames Marshes.

BORBORIDÆ.

Borborus equinus, Fln.—Farningham.
Sphærocera subsultans, F.—Farningham.

PART VIII.

MOLLUSCA.

(Molluscs).

By the Rev. Canon J. W. Horsley, M.A., former Vicar of Holy Trinity Church, Woolwich.

I am honoured by a request to prepare for the South-Eastern Union of Scientific Societies, in view of their Woolwich Congress, some survey of the terrestrial and fluviatile mollusca to be found in the district of N.W. Kent. I do so with the greater pleasure because I practically began in Woolwich, when Vicar of Holy Trinity from 1888 to 1894, my conchological studies.

That attention had been paid to the mollusca of this district in the earlier half of the nineteenth century is obvious from localities mentioned in Jeffrey's "Conchology," which notes, however, when quoted in J. W. Williams' "Manual of British Shells" in 1889, were, in some cases, erroneous, as the shells were then extinct in the localities given, in consequence of the pollution of the Thames, which drove both fauna and flora lower down the river. Building operations also, of course, contributed to the disappearance of species. Amongst the group of field-naturalists associated with me at Woolwich, the one who knew most about the subject and the district was A. J. Jenkins, of Deptford, who contributed to "Science Gossip" in 1890 an exhaustive paper on "British Hydrobiæ, their distribution and habits." Then came, in "Science Gossip" for 1891, an interesting paper by Mr. Jenkins and another of our party, L. O. Grocock, dealing especially with the fluviatile and estuarine shells of the lower Thames. Other members of our small band who did much to find what the district contained were two Arsenal employés, Messrs. A. Old and A. S. Poore. The list I now present is based chiefly on one most carefully drawn up recently by B. T. Lowne, Registrar of the Catford and District Natural History Society, whose investigations supplement my own as being chiefly for the inner belt of our district. Of the

170 species enumerated in the list of non-marine British mollusca prepared by B. B. Woodward, and published in 1904 by the Conchological Society, my present list contains no fewer than 99, or about two-thirds. It is probable that further search might add VITREA LUCIDA (which I found this year in the grounds of Fulham Palace), and HYGROMIA GRANULATA (which I got last year at West Drayton). ANODONTA ANATINA should also be found—say in Danson Park lake. It should be noted that, in his 170 species, B. B. Woodward includes at least 25 which are either aliens (not undesirable) introduced, but hardly naturalised nor commonly found, or are those no longer living in Britain but occurring in the Post-Pliocene deposits other than the Forest Bed series. This reduces the 170 to 145, and as three more are confined to Ireland, we have already 99 out of 142 species as found in our district, an abundance due to our being largely on the chalk, and further, as regards nine species, to our having the brackish water of an estuary in our bounds. I proceed now to enumerate and to give, where necessary, localities and names of responsible observers. As regards the latter, to save space :

R.A.A. = R. A. ADKIN, F.E.S. J. and G. = A. J. JENKINS and L. O. GROCOCK.
Cl. = T. D. A. COCKERELL.
C. = J. E. COOPER, M.M.S. L. = B. T. LOWNE.
H. = CANON J. W. HORSLEY. S.K. = A. SANTER KENNARD, F.G.S. M.M.S.
K. = H. WALLIS KEW, F.Z.S

Several of these gentlemen have most kindly sent in M.S. lists of species with observations, and Mr. Santer Kennard has also read the proof-sheets.

Testacella haliotidea, Drap. — Fairly abundant in garden Rectory Place, Woolwich, 1892 (H.) ; Shoreham Vicarage, 1897 (Ashington-Bullen) ; subterranean and nocturnal in habits, therefore perhaps more widely distributed (H.) ; Lewisham, common (R.A.A.) ; Beckenham, Keston (S.K.).

Testacella scutulum, Sowerby. — Garden at Perry Hill, Catford, 1903 (Mr. W. H. Griffin) ; many found in digging ; Beckenham, Sydenham (S.K.).

Limax maximus, Linné.—Coney Hall Hill, W. Wickham, 1906 (K.) ; probably elsewhere (H.) ; Orpington, 1904 (R.A.A.) ; Bromley, common (S.K.) ; Beckenham, Eynsford (S.K.).

Limax flavus, Linné.—Catford, 1906 (L.) ; common on old walls at Bromley (H.) ; Lewisham, fairly common in gardens, Eltham, Grove Park (R.A.A.) ; Deptford (J. and G.) ; Chislehurst (Cl.).

Limax arborum, Bouch. (**marginatus,** Müller.).—Copse at Hayes, 1890 (K.) ; previously recorded by Rev. Leslie from an oak copse at Erith, 1874 (H.) ; Beckenham (S.K.) ; Chislehurst (Cl.).

Agriolimax agrestis, Linné.—Gardens and fields everywhere (H., R.A.A.; and S.K.).

Agriolimax lævis, Müller.—St. Mary Cray, 1885 (Cl.); Southend, Catford, 1906 (L.); by river in both cases; plentiful (H.); Bromley, scarce (S.K.).

Milax sowerbyi, Ferus.—Common in gardens, etc.—Catford and Bromley (L. and K.); abundant in Greenwich Marshes; often seen crawling across pavements after rain (R.A.A.); Beckenham (S.K.).

Milax gagates, Drap.—Beckenham, 1901 (F. W. Wilson).

Vitrina pellucida, Müller.—Plumstead Marsh, 1892 (H.); Belvedere (H.); Shoreham, 1896 (C.); Keston and neighbourhood, 1906 (L.); not rare on banks; chiefly found in winter; a dead worm makes an attraction for them (H.); Bromley, scarce, Cudham (S.K.)

Vitrea crystallina, Müller.—Damp places on wood.—Old wood stack, Southend, nr. Catford, 1905 (L.); Plumstead (J. and G.); Bromley, scarce; Cudham (S.K.); St. Mary Cray (Cl.).

Vitrea cellaria, Müller.—Plumstead, 1892 (H.); Shoreham, 1896 (C.); Southend, etc., 1906 (L.); common (H.); Lewisham, 1900; Green Street Green, Chislehurst and Orpington (R.A.A.); Bromley, common (S.K.).

Vitrea rogersi, Wood.—Swanley, 1898 (C.); Farnborough, 1906 (L.); Cudham, Bromley (S.K.); Orpington, 1904 (R.A.A.).

Vitrea alliaria, Miller.—Old wood stack, Southend, 1905 (L.); Down, scarce (S.K.).

Vitrea nitidula, Drap.—Woolwich, 1892 (H.); Shoreham, 1896 (C.); Southend, 1906 (L.); Grove Park, 1900–2; Eltham, common, 1901; Orpington, 1904 (R.A.A.); Bromley, common; Cudham, Belvedere (J. and G.).

Vitrea pura, Alder.—Shoreham, 1896 (C.); Southend, 1905 (L.); Plumstead (J. and G.); not common (H.); Orpington (R.A.A.); Cudham (S.K.).

Vitrea radiatula, Ald.—Hayes and Keston, 1904 (L.); damp places (H.); Bromley, uncommon; Cudham (S.K.).

Zonitoides nitidus, Müller.—Southend, 1906 (L.); wet places, often under water (H.); Bromley, (S.K.).

Euconulus fulvus, Müller.—Plumstead Marsh, 1892 (H.); Southend and Hayes, 1904 (L.); not commonly observed (H.); Chislehurst (Cl.).

Arion ater, Linné.—Hayes, etc., 1906 (L.); common (H. and K.); the var. **albida,** Plumstead Marsh, 1892 (H.); common throughout district (R.A.A.); Down, Cudham (S.K.).

Arion subfuscus, Drap.—Chislehurst, 1885 (Cl.).

Arion intermedius, Nor.—Southend, 1907 (L.); Grove Park, 1900 (R.A.A.); Scarce (S.K.); Chislehurst (Cl.).

Arion hortensis, Fer.—Bromley and Catford (K. and L.); Woolwich (J. and G.); common (H. and K.).

Punctum pygmæum, Drap.—Moss in old flint pit, W. Wickham, 1906 (L.) and in old wood stack, Southend, 1905 (L.).

Sphyradium edentulum, Drap.—Hayes Common, amongst moss, 1904 (L.); Keston (S.K.).

Pyramidula rotundata, Müller.—Common under wood and stones (H.); Southend, Grove Park, Burnt Ash, Orpington (R.A.A.); Bromley, common (S.K.).

Helicella virgata, Da Costa.—Common where there is chalk.—One field in Plumstead Marsh, probably dressed with chalk (H.); Green Street Green, Orpington (R.A.A.); Bromley, abun. (S.K.).

Helicella itala, Linné.—Chalk pastures and hedge banks.—Shoreham, 1896 (C.); Down and Eynsford, 1906 (L.); Bromley, common (S.K.).; Cudham, Knockholt (S.K.).

Candidula caperata, Montagu.— Common, perhaps especially on sandy soil (H.); Green Street Green, Orpington (R.A.A.); Bromley, common (S.K.).

Theba cantiana, Montagu. — Common in hedge banks (H.); Green Street Green, Burnt Ash, Orpington, Hither Green Lane, 1900–1 (R.A.A.); Bromley, abundant (S.K.).

Hygromia hispida, Linné.—Common in hedge banks (H.); Grove Park, Burnt Ash, Orpington (R.A.A.); Bromley, common (S.K.).

Hygromia rufescens, Pennant.—Common in hedge banks (H.); Lewisham, Greenwich Marshes, Grove Park, Green Street Green, Chislehurst, Orpington, Catford (R.A.A.); Bromley, abundant (S.K.).

Hygromia fusca, Mont.—Formerly at Blackheath (D. Cooper "Flora Metropolitana," 1835).

Acanthinula aculeata, Müller.—Amongst moss and leaves, Bexley and Hayes, 1902 (L.); to be sought for on dead leaves of holly and beech, in Woolwich district (H.).

Vallonia pulchella, Müller, **Vallonia costata,** Müller, **Vallonia excentrica**, Sterk.—It is doubtful if these are distinct species. Found under wood and stones.—Bank of Thames, 1892 (H.); W. Wickham, 1906 (L.); Hayes and Beckenham, 1907 (L.); Bromley, scarce (S.K.).

Helicigona arbustorum, Linné.—Shooter's Hill (J. and G.).

Helicigona lapicida, Linné.—Chalky hedge banks and boles of beeches. More often found dead than alive in the district.—Bostall Wood to Belvedere, 1892 (H.); Shoreham, 1896 (C.); Down and Farnborough, 1902 (L.); Bromley, scarce (S.K.).

Helix aspersa, Müller.—Everywhere (H., R.A.A., and S.K.) Var. **exalbida** in several places in the district, 1892 (H.).

Helix pomatia, Linné.—Shoreham, 1896 (C.); Cudham, 1906 (L. and S.K.), Down, Keston (S.K.); more common just outside the district, in Surrey (H.).

Helix nemoralis, Linné.—Common, especially on chalk.—Plumstead Marshes (H.); Burnt Ash, Grove Park, Eltham, Orpington (R.A.A.); Bromley, abundant (S.K.).

Helix hortensis, Müller.—More common than the last and allied species. Not usually associated with **nemoralis.**—Both found in Plumstead Marshes, but in separate parts. Var. **lilacina** is an especially N. Kent form, and so, to a lesser degree, is the form bearing only a peripheral band. At Swanley this form with yellow (common), red (rare) and lilac (very rare) ground colour (H.); Grove Park, Eltham, Orpington, common in Hither Green Lane until built over (R.A.A.); Bromley, abundant (S.K.).

Ena obscura, Müller.—Fairly common.—Var. **alba** in Bostall chalkpit, 1892 (H.); Grove Park, Orpington (R.A.A.); Bromley, common; Keston, Cudham (S.K.).

Cochlicopa lubrica, Müller.—Common in moss and under stones.—Bostall, Hayes (H.); Orpington (R.A.A.); Bromley, common (S.K.).

Azeca tridens, Pult.—In similar situations to the former, but rare. Keston, 1901 (L.); Cudham (S.K.).

Cæcilioides acicula, Müller.—Subterranean, to be looked for on buried bones. Dead shells found on mole heaps and in river detritus.—Erith, 1893 (H.); Keston and Farnborough, 1901 (L.); near Gravesend, 1903 (C.); Cudham (S.K.).

Jaminia muscorum, Linné.—Under stones and in moss, Erith, 1893 (H.); West Wickham, 1906 (L.); St. Mary Cray (S.K.).

Jaminia cylindracea, Da Cost.—Abbey Wood 1906 (S.K.); Dartford (J. and G.).

Vertigo pygmæa, Drap.—Under stones.—W. Wickham, 1906 (L.); Beckenham (Wilson).

Baleap erversa, Linné.—On trunks of trees, not common.—Elm trees, roadside at Down, 1902 (L.)

Clausilia laminata, Mont.—Fairly common (J. and G.); Shoreham, 1896 (C.); Hayes, etc., 1906 (L.); Bromley, common (S.K.).

Clausilia bidentata, Strom.—Hedge banks, fairly common (H.); Orpington (R.A.A.); Keston, Cudham, (S.K.).

Clausilia rolphii, Leach.—This species, then new to science, was originally discovered by Mr. Rolph in Charlton Wood.—Fairly common from Charlton to Erith; partly subterranean in habits; very local (H.); Shoreham, 1896 (C.).

Clausilia biplicata, Mont.—Two dead shells, Dartford Creek (Leslie); possibly still lives on the banks of the Darenth.

Succinea putris, Linné.—On water plants at edge of ditches.—Plumstead Marshes, 1892 (H.); Southend, 1902 (L.); Bromley, uncommon, Charlton (S.K.).

Succinea elegans, Risso.—More common here than the former species (H.).—Southend, 1906 (L.).

Carychium minimum, Müller.—Under mossy stones and wood.—Under Bostall Wood, 1892 (H.); Southend, 1905 (L.); Orpington, scarce (S.K.).

Phytia myosotis, Drap.—Estuarine.—Banks of Thames, Gravesend, 1892 (H.); Erith, 1900 (H. J. West); Darenth Creek, 1902 (K.). Var. **ringens,** Gravesend, 1892 (H.).

Ancylus fluviatilis, Müller.—On stones in brook running into the Ravensbourne at Southend (H.); Woolwich district (J. and G.); Bromley, uncommon (S.K.).

Acroloxus lacustris, Linné.—Fairly plentiful on plants in deep water.—Ravensbourne at Southend, 1902 (L.); pond, Pickhurst Green, nr. Hayes, 1907 (L.); Lewisham (S.K.).

Limnæa auricularia, Linné.—Pond in Greenwich Park (J. and G.); but doubtful if there now (H.); Hayes, (S.K.).

Limnæa palustris, Müller.—Local.—Plumstead Marsh (H.); Southend, Catford, etc., very common (L.); Southend (R.A.A.); Bromley, common (S.K.).

Limnæa peregra, Müller.—Very common (H., R.A.A.); Bromley, abundant (S.K.).

Limnæa truncatula, Müller.—Usually on damp edges of ponds and ditches.—Erith, 1893 (H.); Hayes and Southend, 1906 (L., R.A.A.); St. Mary Cray, Beckenham, (S.K.); Plumstead, Erith (J. and G.).

Limnæa stagnalis, Linné.—Common in ditches and ponds.—Plumstead to Keston (H.); common throughout district (R.A.A.); Bromley, uncommon (S.K.).

Limnæa glabra, Müller.—A pond at Belvedere (J. and G., H.); as far as I know, the only Kentish habitat (H.).

Planorbis corneus, Linné.—Ponds and ditches, common.—Local, however, in Plumstead Marsh (H.); Keston Ponds (R.A.A.).

Planorbis albus, Müller.—Fairly plentiful in ponds at Keston and Hayes, 1906 (L.); Keston Ponds, Chislehurst (R.A.A.); Bromley, uncommon (S.K.).

Planorbis crista, Linné.—Plumstead (J. and G.); Plumstead, 1896 (C.); Greenhithe, 1892 (H.); Hayes, 1902 (L.); Southend, 1904 (R.A.A.).

Planorbis umbilicatus, Müller.—Common everywhere (H.); Grove Park, Southend (R.A.A.); Bromley, common (S.K., R.A.A.).

Planorbis carinatus, Müller.—Abbey Wood, 1902 (S.K.).

Planorbis vortex. Linné.—Plumstead Marsh, Ravensbourne, common (H.); Keston Ponds and Southend (R.A.A.).

Planorbis spirorbis, Müller.—Plumstead (H.); Chislehurst and Farnborough, 1904 (L.). **P. vortex** is more local than **P. spirorbis,** and may be distinguished by its prominent keel: it is also flatter and thinner (H.); Bromley, scarce (R.A.A.).

Planorbis contortus, Linné.—Eltham, 1893 (H.); Shortlands, Hayes, etc., 1906 (L.); Keston Ponds, Southend (R.A.A. and S.K.).

Planorbis fontanus, Light.—Ponds at Keston, 1902 (L.); fairly plentiful (H.); Southend, Grove Park (R.A.A.); Keston (S.K.).

Physa fontinalis, Linné.— Common. — Plumstead Marsh (H.); Ravensbourne (L.); Beckenham (S.K.).

Aplexa hypnorum, Linné.—One ditch in Plumstead Marsh, 1891 (H.); Pond at Belvedere, 1892 (H.); near Grove Park, '01. (L.).

Paludestrina confusa, Frau. — Common from N. France to Corsica.—Jeffrey's habitat, " between Greenwich and Woolwich " has long been obsolete. Found by me in 1891 in a small puddle near Erith. Mr. S. Kennard found an example living in the same ditch, 1895. The **P. anatina** of Oulton Broad is, however, now said to be the same. It was originally known as **Hydrobia similis** (H.).

Paludestrina jenkinsi, Smith.—Swarms in brackish ditches from Arsenal Wall at Plumstead to Gravesend. Originally found and named from here. See articles referred to above. Since has spread up the Cray into quite fresh-water. I received specimens from Crayford in 1905 from Mr. Birts, junr. It is now found in many parts of the coast of England. In 1883 it was common as high as Greenwich, and no doubt may spread upwards as the river becomes purer (H.).

Paludestrina ventrosa. Mont.—Brackish ditches, more brackish than **P. jenkinsi** prefers, especially about Gravesend. Originally far more common in England than **P. jenkinsi** (H.).

Paludestrina stagnalis, Bas. (**Hydrobia ulvæ** of older authors).—Nr. Gravesend, 1902 (K.); sparingly in brackish ditches near Greenhithe (H.).

Bithynia tentaculata Linné.—Common, Plumstead Marsh (H.); Ravensbourne (L.); Southend (R.A.A.); Bromley, scarce (S.K.).

Bithynia leachii, Shep.—Not rare in ditches in Plumstead Marsh, 1892 (H.).

Vivipara contecta, Miller.—Beckenham (S.K.).

Valvata piscinalis, Müller.—Common in Ravensbourne, 1906 (L.); Chislehurst, Southend (R.A.A.).

Valvata cristata, Müller.—Erith, 1892 (H.); Ravensbourne, scarce, 1904 (L.).

Assemania grayana, Leach.—Estuarine.—From Erith downwards, 1892 (H.); Gravesend, 1903 (C.); Medway at Cuxton, 1904 (L.); originally described from this district (S.K.).

Pomatias elegans, Müller.—Bostall and elsewhere where there is chalk, 1892 (H.); Shoreham and Swanley, 1896 (C.); Bromley, common (S.K.); Farnborough, 1906 (L.); Green Street Green, Orpington (R.A.A.).

Neritina fluviatilis, Linné.—River Darenth at Eynsford, 1902 (L.).

Anodonta cygnæa, Linné.—Common in ditches.—Plumstead (H.) Ravensbourne (L.); Bromley, uncommon (S.K.).

Sphærium corneum, Linné.—Common in ditches.—Plumstead (H); Ravensbourne (L); Keston ponds, Chislehurst, Grove Park (R.A.A.); Bromley, Beckenham (S.K.).

Sphærium lacustre, Müller.—Ditches.—Plumstead Marsh, 1892 (H.); ponds, Hayes and Farnborough, 1906 (L.); Bromley, common (S.K.).

Pisidium amnicum, Müller. — Common in Ravensbourne (L.); Bexley (S.K.).

Pisidium subtruncatum, Malm.—Ravensbourne, 1904 (L.).

Pisidium pusillum, Gmel.—Ponds and streams.—Hayes, Southend, etc., 1907 (L.); Keston (S.K.).

Pisidium nitidum, Jen.—Southend, 1906 (L.).

Pisidium obtusale, Pfeiff.—Pond, Keston Bog, plentiful, 1907 (L.).

Pisidium gassiesanum, Dup.—Keston and Hayes, 1906 (L.).

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(See also Classification, p. 233).

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* In the List of Beetles the prefixed numbers are those attached to each species in the "Catalogue of British Coleoptera," by T. Hudson Beare, B.Sc., and H. St. J. K. Donisthorpe, F.Z.S.

N.B.—A full Index of Genera, etc., will be found at the end of the volume.

ARCHÆOLOGY.

SURVEY OF WOOLWICH AND WEST KENT.

Edited by W. H. Evans, A.R.C.A. (London),
Head Master of the School of Art, Woolwich Polytechnic.

Preface.

The Archæological Section of our Handbook is a fragment only. Our original plan of survey included :—

(1) A note on the most recent researches as to the place of Prehistoric Man in the Geologic Record.

(2) A survey of Prehistoric Man in West Kent with a record of localities and finds and collections of prehistoric implements, and a Map of the district indicating these.

(3) A survey of the Celts, and their memorials and survivals in our district.

(4) A sketch of the Roman Period in West Kent with the completest possible record of their known remains and a Map to indicate these.

(5) A summary of Anglo-Saxon and Danish records and remains.

(6) A survey of the Normans and their work.

(7) An outline of the place of Woolwich and its district in Mediæval and Recent times, with surveys, as complete as we could make them, of the Archæology of each period in its various departments, and a general Map to aid reference.

(8) A Bibliography of the Archæology of Woolwich and West Kent, with an indication of those books which may be consulted in the unique Kent Collection of the Woolwich Public Libraries.

(9) Lists of Celebrities in all departments of life, and as complete a list as possible of known portraits, engravings and prints illustrating the district.

We are only able to print the following :— PAGE

(1) A brief sketch of the Prehistoric Period by the late B. C. Polkinghorne, B.Sc., F.C.S. 443

(2) A survey of the Churches of the district by W. H. Evans, A.R.C.A. ; H. Fleming ; W. M. Keesey ; D. I. Smart, A.R.E. ; H. Wooller, A.R.C.A., etc... 448

(3) A list of Woolwich Celebrities by W. T. Vincent, President of the Woolwich Antiquarian Society .. 462

We have in hand, in addition, contributions which may be made available for a future edition :—

(1) Material for a Topographical Index of West Kent, supplementing the Archæological Survey of the County of Kent, by George Payne, F.L.S., F.S.A., together with some Topographical notes.

(2) A series of extracts and notes on the Manors and Manor Houses of the district.

(3) Material towards a Bibliography of the Archæology of Woolwich and West Kent.

(4) Notes on Dene Holes.

We have had offers of co-operation from various sources, of which we have been unable to avail ourselves, owing to the great difficulties of extreme pressure in the first instance, before the Congress actually met in Woolwich, and subsequent unavoidable delays. Amongst these was a most kind offer from Leland L. Duncan, F.S.A., in connection with the Ecclesiology of the district, and an offer from another worker, to place at our disposal his notes on the Stained Glass remaining in the churches and civil buildings of Kent.

We venture to hope that this fragment, imperfect as it is, may prove a stimulus towards a full survey of the rich archæological records and remains of West Kent, and towards the linking up for this purpose both of individual workers and of Archæological and kindred Societies ; and, further, that the Woolwich Antiquarian Society and its honoured President may play an important part in carrying forward this work, which was undertaken to welcome the South-Eastern Union of Scientific Societies on its first visit to Woolwich by their invitation.

PREHISTORIC PERIOD.

By the late B. C. Polkinghorne, B.Sc., F.C.S.,
Lecturer in Chemistry and Geology, Woolwich Polytechnic.

It does not require a great effort of imagination to conceive a time when man was in so primitive a state that his implements of war and peace were confined to stout cudgels and unfashioned stones. The former, through lapse of time—how long it is perhaps too rash to suggest, though competent archæologists do not hesitate to ascribe an antiquity of 200,000 years to mankind—have necessarily perished, and the latter could not be identified. But when accident or random movement suggested to the mind of the primeval savage that, by knocking one stone against another, a cutting instrument was possible, rapid progress in the fabrication of such weapons must surely have taken place. Certain it is that man, contemporary in this country with the mammoth rhinoceros, cave bear, and other extinct mammals, was not the uncouth creature he is sometimes supposed to have been. His implements show great manual dexterity and a purposiveness frequently apparent even now. And when the raw material available for his arts was chalk flint, he speedily found that serviceable pointed and edged tools could be fashioned for operations of boring, cutting and chopping. In districts where chalk flint was not to be found native, other material, such as chert (possessing the same properties as flint in a less favourable degree) and obsidian (a natural glass) were used instead.

The property of flint, making it so adaptable for fabrication of tools, is that which is described as its "conchoidal fracture." A suitable nodule of flint struck with sufficient force near the edge of a convenient face by another pointed piece of flint—a pebble would also serve—detaches a thin "flake." A "flake" usually shows a "point of percussion," and, spreading from this, a fresh convex surface which can be refitted into a concave "flake hollow" in the residual "core." The beginning of the *conchoide* is a part of a cone—it is known as the "bulb," and corresponds with a bulb-hollow on the core. The margin of such a flake often exhibits a sharp edge quite capable of use as a cutting instrument without further work. Usually, however, it was made more useful and permanent by further elaboration.

These marks—the "bulb" and the "bulb-hollow"—are the rudimentary signs of human work, and the beginner should learn to detect these and be content at first to collect and examine flakes rather than expect to find arrow heads and polished celts.

Rarely indeed do agencies other than human imitate these signs—frost and moving water act quite differently. The rolling and jostling of the pebbles on a sea-beach and of the gravel of a flowing stream may be taken as instances.

But flakes as evidence of man's handiwork are not without corroborative indications. Their position with reference to the present surface of the soil, the association with finished implements, with the bones of animals and shells of edible molluscs often put the antiquity of a simple flake beyond doubt.

It should be remembered that the making of gun-flints and flints for the tinder-box and the shaping of flint blocks for building produce similar flakes, which are found at times strewn about on or near the surface. It could truly be said of such that they are of human origin, but that they are of great antiquity is sufficiently disproved by other criteria.

Polish, and the surface alteration misleadingly called "bleaching," are the principal tests of age. The former is a result of friction due to gentle movements of the soil-cap continued through ages, and the latter ensues from the solvent action of rain and carbonic acid through long periods.

The choicer flakes were subjected by the ancient artificer to a further treatment described as secondary working. By use of a bone or a peg-shaped flint—a fabricator—pressure along the sharp margins would nip off tiny chips, and the flake would be so reduced as to be used for the smaller kinds of implements—scrapers, knives, saws and arrowheads.

Flint "knapping" is still practised at Brandon, in Norfolk, and the technique of the flint worker may even now be studied. True, the only forms there produced are for the furnishing of flint-locks and tinder-boxes, but this involves the same manner of work as "man before metals" employed.

The stone age is, in this country, classified according to three well marked stages, which do not appear to be continuous, described as the Eolithic, Palæolithic, and Neolithic periods. Elsewhere, as in the French cave deposits, the Palæolithic and Neolithic periods seem to show continuity ; but the correlation between the French and English stages is not clear.

The evidence of uninterrupted succession from Neolithic to Historic times rests on much surer grounds. Exploration of Swiss lakes and the peat beds which represent ancient lake bottoms reveals a series of "relic-beds," the oldest containing stone implements only, the intermediate stone and bronze, and the latest iron, all the beds being associated with piles and platforms which supported the lake dwellings.

In the district under review we have an area probably unique in the extensiveness of its prehistoric data. Let us briefly consider them in order.

Eolithic Period.

The very ancient gravels capping the escarpment of the North Downs above Ightham have been for years the subject of the much controverted question of Eoliths. Mr. Benjamin Harrison, of Ightham, and, later, Sir Joseph Prestwich, were the earliest exponents of the theory that these gravels contained the implements of a race of men considerably antecedent to the Palæolithic period.

It may be well to state briefly the facts and arguments in favour of this theory. The flints under consideration are found in these ancient "plateau" gravels only—except in instances where they have been washed down into more recent beds. While Eolithic and Palæolithic flints have been found together at the surface, Eoliths *alone* are found *in situ* in the plateau gravels.

The skilled products of the Palæolithic period suggest a preceding stage of cruder culture and implements, and it is claimed that these flints represent this earlier time.

The Eolithic implements are deeply stained with iron oxide, the chippings are taken off one face or one edge only—the dexterous flaking of the succeeding period is absent, but, at the same time, the implements tend to approximate to certain defined types.

Palæolithic Period.

The tools of this period are found in the older river gravels and brickearths of the Thames, notably at Swanscombe and Greenhithe, in the Darenth Valley at Shoreham, and in the Ravensbourne Valley at West Wickham, Hayes, and Keston, where also polished and unpolished implements of the Neolithic age are occasionally found. The Cray gravels at Greenstreet Green, near Farnborough, have also yielded numerous Palæolithic implements. A few have also

been recorded from Dartford Heath. At many of these sites the implements show little evidence of wear, and they are apparently *in situ* at Milton Street (Swanscombe). They consist of the usual pear-shaped, pointed and oval tools, probably all used in the hand without hafting, and frequently retaining a butt of the original surface. Besides these, there are large and well-formed flakes sometimes converted by secondary working into knives and scrapers. These interesting forms are frequently missing from collections—the collectors unfortunately often devoting themselves to repetitions in great numbers of the hache and pointed implements. At Galley Hill, Northfleet, a human skeleton, undoubtedly of this period, was unearthed from under eight feet of gravel in 1898, and described by Mr. E. T. Newton, of the British Museum ("Quarterly Journal of Geological Society," 1895, Vol. LI., p. 505, and Proc. Geol. Assoc., 1896, Vol. XIV., p. 305).

Neolithic Period.

Whether Neolithic man was the heir of the preceding race or an immigrant of a later time is a subject full of difficulty, and hardly suitable for discussion here.

The implements of this age differ considerably from the hand weapons of the Swanscombe types. We have a much greater variety of tools, some obviously intended for hafting, on wooden handles; on the whole, they are smaller, such as arrowheads, saws, finely-pointed implements for piercing and boring—and indicate a wider culture. Moreover, here, for the first time, we find the practice of grinding employed.

Although this stage is sometimes distinguished as that of polished stone, it by no means follows that all or nearly all the implements were ground. On the contrary, the instances of grinding are exceedingly few in relation to the whole, and almost confined to celts—chisel-like forms intended for hafting.

The spoils of the Swiss lake-dwellings include specimens of celts set in horn sockets and driven into wooden handles.

A considerable number of Neolithic weapons have been collected from the pebbly heaths and river gravels of North-west Kent, and are scattered among private collections.

Among the few surviving monuments of Neolithic architecture in the South-east of the district under survey are the dolmen known as Kit's Coty House and the ruinous cromlech of Coldrum. The latter probably belongs, like the great Stonehenge circle, to the later part of the period, when bronze was beginning to be known.

Bronze Period.

This period was a very short one compared with the preceding, and reached down to as late as about 1000 B.C. Remains of this time are very rare, but the gold ornaments discovered at Crayford in 1906 and 1907 are of this period.

Early Iron Period.

The Iron Age speedily merged into the Historic period. When Julius Cæsar made his first acquaintance with the Kelts of this island iron was in full use and a considerable degree of culture obtained. The camp at Charlton is now generally accepted as of this period. The vases discovered in 1906, and now at Charlton House, may be of Keltic manufacture on Roman models. Roman culture had affected this side of the Straits long before the permanent occupation.

CHURCHES, Etc.,

	Saxon and Norman.	Early English.	Decorated.
Ash Church. *		Good examples of double-moulded Bases to arcade piers, the plinth following the line of moulding. (Late 13th cent.)	East window of N. aisle. Tower (Late Decorated). Tower embattled and buttressed, with belfry windows, square headed, labelled & 2 lights with string course underneath them.
Bexley Church. *	A church, not present one, existed at time of Domesday Survey 1085. Chancel, nave & lower portion of tower had formed part of Norman church. Remains of Norman door may still be seen under new S. porch.	Arcade of 3 bays between nave and N. aisle; N. doorwaywith new porch, main part of tower, lancet window in chancel, tower, & one in N. aisle restored in 1466. Sedilia.	
Bromley Church.	Evidence as to the early church is conflicting. Norman font.		Brass 1361. Greater portion of present church 14th century.
Charlton (St. Luke's).			
Chevening (St. Botolph's)	Norman window south of nave.	Three wide E.E. arches 13th cent., supported by circular columns, divide nave from S. aisle. Two similar arches separate high chancel from the Stanhope Chapel or S. chancel. N. wall of nave is remark. for its three mural arches of E.E. character. A small lancet window was removed from one of these arches, and it is probable that one window stood within each arch.	
Chislehurst Church.	Advowson of church given by Henry I. in 1100–1108.	Probably E.E. font late 12th cent.	In modern S. porch is holy water stoup, prob. reign of Edward IV. Rood screen good and probably same date as stoup.

1000—1900 A.D.

Perpendicular.	Modern Additions. Remarks.
S. & N. aisle chapels, water stoup in porch, outer doorway labelled. Nave & chancel each with N. & S. aisles, S. porch and W. tower. Perpendicular door blocked up in N. aisle.	E. window of chancel, one window in North aisle and several in the S. aisle and chancel restored.
	Restoration in 1883. Tiles and screen restored after the old ones. Exceedingly interesting monuments, and brasses or hatchments. Steps to rood loft are still left.
Tower: lower stage restored A.D. 1872; perpendicular tracery, sq.-headed belfry windows; corbels & gargoyles.	1829, arches & piers were removed, N. aisle elongated, chancel and side chapel on S. thrown into main building, changing its character. Recess with capitals and mouldings, graceful relic of Edwardian period in S. wall. Sedilia and chantry. Ancient oak door to S. porch, preserved in present porch. Arch connecting S. aisle with tower only original one left. Window over W. door, very depressed arch.
	Re-built in 1629. Probably the earlier church was encased with brickwork. Probably designed by Inigo Jones, being built with funds left by Sir Adam Newton.
Tower (West). Octagonal turrets at N.E. angle. Embattled parapet.	New S. porch built 1858. Church restored generally at same time. Carved Jacobean pulpit. Several brasses.
	Marble monument of recumbent lady and infant on a tomb, said to be Flaxman's masterpiece.
Scadbury Chantry, 1422.	

	Saxon and Norman.	Early English.	Decorated.
Crayford Church. *	Norman windows blocked up; still visible, however. Very narrow at outer side and splayed in interior, and set high up.	S. Doorway about 1250.	Chancel window S. wal 2-light window in towe Piscina. Triple sedili remains of arches an mouldings.
Darenth Church. (dedicated to St. Margaret). *	Chancel 1127; E. part very early. Singular ornament in heads of windows. Roman bricks in walls. Splendid font of cylindrical form, containing sculpt'd. scenes and figures in 8 compartments under semicircular arches. Arcade still remaining of destroyed chapel on S. of old chancel. Chancel singularly divided into 2 divisions by steps of different widths. Brackets to nave arches are carved with grotesque animal figures.†	Tower, having small lancet windows. Remains of painting in chancel, jambs of windows and ribs of flat ceiling (latter restored), and painted cross on N. wall of nave.	
Dartford Church. *	Mentioned in Domesday Book 1085. Tower in lower stages is an early example of Norman work.	N. chancel erected, dedicated to Thomas a Becket.	Additional stage adde to the height of towe second half of 15 cent Arches inserted i ground stage to strength en tower. Main portio of church complete 1333. Western doorway Stanpit Chantry 1338.
Dartford Priory of St. Mary & St. Margaret, Virgins of Dartford.		Founded in 1344 by Edward III. for 24 sisters and 6 brothers.	

Perpendicular.	Modern Additions. Remarks.
Beams of roof bear date 1630. Fire in 1630.	Restored 1862. Remains of doorway, piscina and sedilia found. Chancel arch modern. Old tomb 1652. Two effigies and coloured heraldic shields. Body of church divided into two equal parts by arcade in centre and terminating just over chancel arch. This plan is very nearly unique. All arcading in centre of nave is probably Perpendicular ; some mouldings are even late Decorated
Windows in nave and aisle.	There are also traces of ancient painting on square capital in western part of chancel. Also on E. wall of chancel (externally), high above windows, is cross worked in flint.
	[† The vaulting over the chancel, which is joined without ribs, the vaulting springing direct from the walls without any impost].
Room built for chaplain over the vestry, transformed into an armoury in 1648. Towers eastern and western. Arches added 1470–80. Top stages of tower 1480. Fresco painted on wall, St. George and Dragon. Rood loft probably this period ; doorways still seen in walls. Very curious inscription on brass 1496.	Clerestory windows inserted 1792, and walls of nave raised 2 or 3 feet and ceiled inside. Communion plate 1651-2. Tower stands in peculiar position, being on N. side of church. Probably erected as defensive stronghold, commanding ford over river Darenth. Bishop of Rochester held Consistory Court. Fine monumental brasses in S. wall of high chancel, very rich in brasses.* Window erected to the memory of the Hermit of Darenth Ford. Old tomb 1607.
Closed in 1538.	A never-failing source of relief to the poorest inhabitants of the district, and an asylum for the widow and the orphan. Building was quadrangular ; embattled tower over the gateway, ornamented with octagon pedestals, supporting the statues of St. Mary & St. Margaret ; embattled parapet ran along the whole external front. Tower taken down 1828 ; at present in ruins, part of the S. wall of tower still existing 1841. Retained by Henry VIII. as residence. His divorced wife, Ann of Cleves, lived here until her death, July 15, 1557. Afterwards granted to Friars Preachers of King's Langley in Hertfordshire until dissolution of new religious communities in first year of Elizabeth's reign. Q. Elizabeth made use of late priory as a mansion for herself. At end of Elizabeth's reign the land and priory granted to Sir Edward D'Arcy during his life. In 1606 granted by James I. to Robert Cecil, Earl of Salisbury, and re-granted back by Sir William Cecil 1612 to Sir Robert D'Arcy, the Earl of Salisbury.

	Saxon and Norman.	Early English.	Decorated.
East Wickham Church (St. Michael)			
Eltham Palace. *		Probably built before 1270, because Henry III. kept a grand public Christmas here. Hall was formerly surrounded by a moat, a part of which still remains. Roof, which bears some resemblance to Westminster Hall, is very fine and rich. Hall is 101 ft. long and 36 ft. wide, 10 windows on each side, beside the oriels at the ends which are 14 ft. wide and nearly 10 ft. deep. It was traversed by a screen profusely decorated and having a music gallery over it, whole of which was entire in 1782.	
Erith Church (St. John's). *	Chancel, Norman walls; E. wall was ornamented with an arcade. N. wall: parts of 2 round-headed windows. S. Wall: similar windows, western one remains complete. Outside chancel at N.W. corner now hidden by buttress is the bedding of a small Norman doorway. Colour work in red outline: 5-leaved roses. Portions of Roman tiles were used in parts of the work, S. wall of church. Ruins of Saxon windows in N. wall of chancel.	Chancel: High arches without mouldings in each wall of chancel (now blocked). Two chapels built. Top of Norman arcades in E. wall were cut off, and 3 lancets put there. Arcade of 3 arches divides nave from S. aisle. In middle of W. wall of nave can be seen outline of pointed doorway. Appears to have been the great western door of the period. N. door oak, with elegant hinges; colour work continued.	Lady Chapel: An arc tie beam in roof. Roo staircase constructe woodwork of roofs t nave aisle and Lad Chapel. Tower, and r built in 1877.
Farningham Church. *		Chancel seems E.E., and nave of same date, with small windows on either side. Steps to rood loft at E. end of N. wall are still remaining. E.E. piscina is a double one, with single column moulded cap & base & unmoulded arches; also plain unmoulded recess in S. wall of chancel, probably for sedilia.	Door with water stoup i N. wall of nave. Ne porch built round th (Decorated).

Perpendicular.	Modern Additions. Remarks.
	Two brasses of interest; 1325—since restored, and 1568. Mediæval hexagonal font.
	Antony Bec, Bishop of Durham, conveyed the palace and some lands in Crays, Catford, etc., to Edward, Prince of Wales, afterwards Edward II., who kept residence here. 1316: Edward II.'s son, by Isabella of France, was born here (called John of Eltham). 1347: Edward III. held a tournament here. 1364: Edward III. gave a banquet to John, King of France. 1376: Edward III. holds Parliament. Richard II. retired to Eltham. Henry IV. resided much at Eltham. Henry V. rested here on return from Agincourt. 1416: Emperor Sigismond lived here while in England. Henry VI. lived at Eltham. Edward IV.'s sixth and seventh daughters were born here; he added and beautified much, and probably built existing parts, the Hall and the Bridge. Henry VII. built the "fair front over the moat." Henry VIII. spent Christmas here in 1515. Queen Mary stayed here in 1556. Queen Elizabeth stayed here in 1559. James I. last Royal resident. Charles I. visited the Palace.
Two windows in Lady-chapel. Three 3-light windows in aisle. Three pointed clerestory windows in top of N. wall of chancel (partly destroyed in restoration). Rood screen—window.	Restored 1877, and N. aisle and chapel added; also stone porch. Window set for the express purpose of lighting up the rood-loft and the chancel steps for readers. Traces of nine brasses that have been removed. Sundial on S. wall, externally. Sarcophagus in chapel.
Tower and font, and windows in N. aisle.	Has been much renovated. Brasses to William Culbore, 1451. Also two small 16th Century ones.

	Saxon and Norman.	Early English.	Decorated.
Fawkham. *	Walls probably Norman, containing small round-headed windows, closed-in N. wall of chancel and S. wall of Nave.	Tomb, arch in N. wall of chancel, having originally on grave slab oak chest, iron-bound, in shape resembling rude coffin. This has since disappeared.	Windows, generally, except Norman. Pointed canopy, crocketed but mutilated in S. wall o nave. S. porch (decorated period) has solid oak door with iron nails; also timber supports to belfry in W end of nave. Remains of W. door blocked up
Foot's Cray.	Very small church. Chancel and font Norman, of Weald marble.	Chancel trans. Norman, or perhaps E.E.	Small portion of Decorated screen work stil exists
Greenwich (St. Alphege). *			
Hartley. *	Small narrow Norman window in nave on N. side. On S. side also is another Norman window, and one with two cinque-foiled lights.	Chancel arch very plain.	
Eynsford *	W. door in tower is Norman, but has been inserted after removal from chancel. It has a wood transom & later pointed door has been inserted beneath transom. Only Norman remains are S. wall of chancel, which contains remains of Norman windows. On S. groin of entrance to apse are two Norman carved stones, one with hole in same.	In N. wall of chancel are remains of an E.E. arcade of two arches, which once led to a N. aisle. Semi-circular apse with three lancet windows, and double piscina with trefoil arches and moulded cap and base, with leaf ornament on base. One basin is octagonal, & one circular. Caps of chancel arch. S. transept with eight lancet windows.	Chancel arch is Decorated. Brackets for rood screen remaining.
Horton Kirby (St. Mary). *		Building generally E.E., with later windows inserted. Very good E.E. chancel & transepts.	W. end window; W doorway of the nave Decorated door N. o nave filled up. Windov in N. wall of nave.

Perpendicular.	Modern Additions. Remarks.
	Contains Piscina of unusual type: double, with central shaft, each division cinquefoiled and quatrefoiled over arch. Dimensions of inner width of both divisions is $20\frac{1}{8}$ ins. Present Church: Chancel, nave, with S. porch of timber and small shingle bell turret over W. end. Several brasses, 1520, some heraldic.
N. Chapel and windows generally. Rood loft, stairs (Per.) still exist on S. side of nave, pulpit being placed near head of them.	
	Roof of old church fell in in 1710. Church rebuilt in 1718. Remains of old church built into walls of present building Much of carving by Grinling Gibbons.
	In chancel is a lychnoscope single lancet trefoiled. Doorway within porch has semi-circular head internally. Door has some good old iron work. Walls have been lately partly reconstructed in flint and marble, and some brick buttresses added. South porch has wooden belfry with small spire over W. end. Plain arched recess in S. wall. E. window of chancel restored.
Tower, porch at W. end & font all Perp. Window above arcade in N. wall of nave is Late or Debased Tudor, as are also the 2-light window in N. aisle. In Tudor Period the two E.E. arches (que vide) were blocked up, & two windows were inserted. 14th cent. low side window in S. wall of chancel.	Two stone coffins in porch, which were found near chancel in 1775, and were re-buried and dug up again. Very remarkable feature is the slope of nave floor from W. up to chancel. S. transept floor is higher than nave but lower than that of the chancel. Galilee porch at W. end, and semi-circular apse. Squint remaining in wall S. of chancel arch. In S. wall of S. transept is E.E. piscina, and slight recess probably indicating position of sedilia.
Most of windows in nave.	Upper portions of tower and both transepts reconstructed with brick during 18th century. Very good roof truss.

	Saxon and Norman.	Early English.	Decorated.
Lesnes Abbey. *	Founded 1178 by Richd. de Lucy for Canons regular of the Order of St. Augustine. Originally about 40. x 97 ft., and square tower 17 ft. against N. side of chancel between nave and chancel.		
Longfield (St. Mary). *	Small Norman window at West end of aisle.	N. window of chancel, plate tracery.	
Lullingstone.			Windows most plain decorated.
North Cray. *			
Orpington. *	11th or 12th cent. Interior 100. long ; original walls ; no aisles added.	W. doorway: flat-pointed arch, chevron & dog-tooth ornament. S. column broken away to take holy-water stoup. Early Transitional chancel arch ; S. door of chancel groined, lower stage of tower. Lancet windows ; small trefoil-headed piscina ; 14 ft. sq. interior area of tower, which is in remarkable position, being placed on N.E. side of the nave's east end. Possible mural pulpit. Porch & altar tomb within it probly. temp. Ed. III.	
Plumstead (St. Nicholas). *	Walls of S.W. & part of E. aisles believed to be Norman. Three lancet windows in S. wall also of Norman type.		
Ridley (St. Peter). *	Norman window on N. side of nave.	Chancel arch, on corbels. Trace of small aisle or chapel, once opening to it by plain E. Eng. arch on imposts.	

Perpendicular.	Modern Additions. Additions.
Suppressed in 1524.	Site of Abbey and demesne are now occupied as a farm. Considerable remains of Abbots' lodging still existing.
Perpendicular windows in aisle & S. wall of chancel	Restored in 1809 ; E. window of chancel.
	Effigies : 1580, 1587 ; brasses : 1487, 1533.
	Many alterations have taken place. There has been some good Flemish carving introduced into the chancel—the reredos and choir-stalls. The porch contains some fragments of old glass, probably from Ruxley Church.
	It was the mother church, until recent times, of St. Mary Cray, Hayes, Down, Knockholt ; appendant chapels ; three brasses : 1439, 1511, 1522 A.D.
	Repaired in 1662 ; again repaired in 18th century. Gravestone in doorway of Vestry of Purbeck marble. Has inscription round edge in characters which were in use before the Norman Conquest ; presumed to be 800 or 900 years old. Mason marks to be seen on oak tie-beams of roof.
	Aumbrey in N. wall of chancel. Small church, aisle & chancel. N. S. porches, and belfry over W. end. Small piscina in S. wall of nave, probably E.E. ; low opening in S. wall of chancel now filled in.

	Saxon and Norman.	Early English.	Decorated.
Southfleet (St. Nicholas). *		E.E. door in N. wall of chancel. E. E. piscina in chancel.	Nave, aisles, chancel & tower all decorated. E window of chancel is o 5 lights and has some ancient stained glass Remains of decorated sedilia with carvings.
St. Mary Cray.		Nave is divided from each aisle by three arches on circular pillars, & chancel arch is similar. One N. window of chancel is E.E.	In N. aisle of nave are Early decorated windows of two lights. Remains of a screen which may be Decorated.
St. Paul's Cray. * (" Archæologia Cantiana," vol. xviii., p. 279)	The present structure superseded that mentioned in Domesday Book.	W. Tower, Nave, N. & S. aisles, well developed chancel with chantrey, prob. erected 1200—1220.	
Stone (near Dartford) **(St. Mary).** *	Referred to in Domesday Book 1066. Foundation of tower arches. Roman tiles in various parts embedded in walls.	All present building. Walls of flint, with chalk over principal string course. Date 1254–71 in chancel. Beautifully carved spandrils in chancel, 13th cent., the arcading of which is identical with that at Westminster Abbey	Small vestry on N. side of chancel. Windows in W. end of nave and aisles & that in W. bay of S. wall, & at same time tower piers were re-cased. Flying buttresses added for support to E. piers of tower, internally spanning aisles.
Sutton-at-Hone. *		Walls probably E.E. Rubble flint, with front of porch in good squared flint work. Square tower at W. end with small circular turret, some evidence of whole of exterior being covered with plaster-cement; considerable portion of tower is so now. Carved heads as dripstones to all windows. E.E. cusped piscina.	Windows in nave.

Perpendicular.	Modern Additions. Additions.
E. ends of S. aisles have Perpendicular windows. Old woodwork, perpendicular pews in N. aisle. Also old iron-bound chest.	Some ancient stained glass in aisle windows. Pavement has several old tiles. Many remnants of ancient stalls and carved pew ends ; also monumental remains and brasses in nave and N. aisle and chapel. In S. aisle is a marble tomb to Sir John Sedley, 1561, nicely painted and gilt, with helmet and sword. Very good font, carved panels. Old oak door in S. porch. Pulpit probably Jacobean.
S. aisle windows are late perpendicular. One window at S. of chancel also is of same date.	S. porch of two stories. From upper story there opens into the church a hagiscope or squint. 16th, 17th, & 18th century brasses.
Holy water stoup, 16th cent. Staircase leading to rood loft 16th cent.	Restored 1856–61 ; S. aisle rebuilt 1839 ; chantrey entirely rebuilt. Six coffin-lids dug up (stone) ; one now built in W. wall. E.E. W. doorway and S. aisle windows restored 1856–61 ; S. chapel built 1856–61. Modern font. On the N. side are two arches of destroyed arcade.
Fire in 1638 which burnt all shingle roofs, and necessitated new ones & alterations to chancel, which was lowered some 5 ft., & windows in N. side built up afresh. Wiltshire Chantry added in 16th cent. Contains altar tomb, good carving.	Restored in 1870. Richness of detail and beauty increases from W. to E. Elaborate dog-tooth carving in chancel arch, and quatrefoils on either side of arch above. Brasses in chancel.
	Supporting arches between nave and side aisle are late additions, and rather heavy. All external quoins and stone dressings have been lately restored. Chancel roof is divided into square compartments by wooden ribs, and below eaves line originally were 12 or 16 hatchments, which are now scattered over other portions of church. All pew wood work is good, & bench-ends are carved with linen-panel decoration. Also some good Jacobean panels at back of choir-stalls.

	Saxon and Norman.	Early English.	Decorated.
Swanscombe Church (St. Peter & St. Paul). *	On S. side of tower is a double-splayed round-headed window of Saxon work. Some masses of Roman masonry in quoins of tower. Chancel walls are Saxon or E. Norman, & contain remains of circular-headed windows & one semi-circular window in N. wall of chancel.	Three E.E. arches in nave, with carved caps to two pillars & corbels; other caps are plain-moulded. Two E.E. windows in chancel, N.	Decorated windows in lower part of W. side of tower, & also one E. of S. aisle. One window in S. of chancel.
Woolwich *			

* signifies: "Personally visited for the purpose of this

[N.B.—We have received the following note from W. H. Griffin, Hon. Sec., Catford, and
"I think that some mention should be made of the ruins of the very ancient
the Ordnance Maps as 'Chapel in Ruins.' B. Harrison once told me that it is
large Sarsen stone there which was first the altar of a heathen temple, and
the bushes and herbage within the walls. The Chapel is said to have once
most ancient fragment of our ecclesiastical buildings in the district, but I

Perpendicular.	Modern Additions. Additions.
All windows of S. aisle with one exception. Wooden lectern, prob. of Perpendicular workmanship.	Pilgrims came to this church for help from St. Hildeferth (born 617). A relic of the saint was preserved here for some time. Rood screen destroyed by fire. Monument to Sir Ralph Wedon 1609, coloured with heraldic shields, helmets, swords, etc. Church was burnt down and restored in 1903.
	Built in 1735. An earlier church stood on adjacent site. Church chronicles go back to 400 A.D.

survey," when placed under the name of a church, etc.

District Natural History Society, who has kindly read the proofs of the foregoing:—ecclesiastical building in the Maplescombe Valley above Farningham. It is marked on supposed to have been erected during the Roman occupation, and that there was a then of the Christian Chapel. Fragments of this stone I have seen lying amongst been an appanage of the church at East Peckham, near Tonbridge. This is probably the find few people know of it."]

WOOLWICH CELEBRITIES.

By W. T. Vincent, President of the Woolwich Antiquarian Society.

Abel, Sir Fredk., War Office Chemist; joined Royal Arsenal, 1849, and remained many years.

Adye, Gen. Sir John, born here; was Governor R.M.A. 1875, and afterwards Governor of Gibraltar, Director-General of Ordnance, etc.

Arthur, Prince, Duke of Connaught, Cadet at R.M.A., 1867, and afterwards served in Rifle Brigade at Woolwich.

Alfreda, or Ethruda, daughter or niece of Alfred the Great, owned the Manor, A.D. 904.

Aula, Avice de, owned the Manor, 1261.

Baieux, Bishop; had Manor of Eltham, under William I., 1066.

Bloomfield, Lord; Commandant, 1838.

Bloomfield, Robert (poet); lived here, 1803, and married a Woolwich woman.

Borgard, Gen.; founded the Royal Artillery, 1717.

Bowater, Richard; owned Woolwich Manor (Southall) 1701.

Bowes, Sir Martin, Lord Mayor of London, 1545, lived here and founded the Goldsmiths' Almshouses.

Burghesh, Lord Bartholomew; lived, 1350, at Plumstead Park, now Burrage (Burghesh) Town.

Christie, W. H. M.; Astronomer Royal, 1881, born here, 1845.

Cobbett, Wm.; author and politician, served in the Royal Artillery at Woolwich, and married here in 1792.

Congreve, Sir W.; inventor of rockets, matches, etc., lived at Arsenal, 1814.

Cromer, Lord (Evelyn Baring); Cadet R.M.A., 1856; officer R.A., 1858; British Administrator in Egypt, 1884—1907.

De Luci, Richard; Regent of England *temp.*, Richard II., founded Lesness Abbey, 1178.

DRAKE, SIR FRANCIS ; fitted out at Dockyard his Naval expeditions, 1587, etc.

DUNCAN, COL. FRANCIS, M.P. ; wrote History of Royal Artillery, 1872; died here 1888.

EVELYN, JOHN ; diarist, author of "Sylva," etc., died 1706 ; had much to do with Woolwich during Dutch War, 1665.

FORBES, J. STAAT ; railway magnate, 1895, etc., born here.

FRANKLIN, SIR JOHN, Arctic explorer, fitted expedition at Dockyard, 1845.

GORDON, GEN. CHARLES ; distinguished soldier and philanthropist, born at 29, Woolwich Common, 1833.

GREGORY, OLINTHUS ; mathematician, lived here and died here in 1841 ; buried at Charlton.

GRIMALDI, JOSEPH ; the famous clown, lived at Prospect Row 1832.

HENRY, PRINCE OF WALES (son of James I.) ; educated (with his brother, afterwards Charles I.) at Charlton House, and had much to do with Woolwich Dockyard.

HEWITT, J. ; historian, archæologist, and authority on ancient armour, lived the latter part of his life, about 1860, at Wood Street, Woolwich.

HOBSON, F. ("Fred Leslie") ; actor, born here, 1855.

HUGHES, SIR EDWIN, first M.P. for Woolwich, 1885, and first mayor, 1900.

HUTTON, DR. CHAS., F.R.S. ; mathematician, lived here, 1773—1823.

JEFFERIES, RICHARD ; author, lived at Victoria Road, Eltham.

JUKES, REV. J. ; author, etc., lived here, 1879—1901.

LINDSAY, REV. T. ; Rector of Woolwich, 1686—1694 ; archbishop of Armagh, 1714.

LOVELACE, RICHARD ; Cavalier-poet, born here, 1618.

MAJENDIE, COL. SIR V. D. ; Inspector of Explosives, and author, lived at Woolwich and Charlton many years.

MARSH, J. ; chemist in Arsenal, discovered test for arsenic, 1833.

MAUDSLEY, HENRY ; a powder-boy in Arsenal, born here 1771, and became eminent engineer.

MAURICE, GEN. SIR J. F. ; last Commandant, wrote life of his father, Frederick Denison Maurice, 1884.

MORE, SIR THOMAS ; Lord Chancellor to Henry VIII., lived at the Court-yard, Eltham, and was father of Margaret Roper, of Well Hall.

Payne, Thos.; author of "The Age of Reason," kept a stay-maker's shop in High Street.

Pepys, Samuel; diarist, lived for a time here during the Plague and Fire of London, 1665—1666.

Petrie, W. M. Flinders; Egyptologist, born at Maryon Road, Charlton, 1853.

Pette, Phineas, Master shipwright, and friend of Prince Henry, 1606.

Proctor, R. A.; astronomer, lived at Brook Hill Road, Woolwich, about 1873.

Pultenay, Sir John, Lord Mayor of London four times, and Lord of Woolwich, 1327—1349. Is supposed to have lived at the Tower House, nucleus of the Royal Arsenal.

Quillinan, Edward; poet, married Wordsworth's daughter, and lived at Nightingale Vale about 1835.

Raleigh, Sir Walter; fitted Naval expedition here, *temp.* Elizabeth and James I.

Reeves, Sims; singer, born at R.A. Barracks, 1818.

Roper, Margaret; heroic daughter of Sir Thomas More, lived at Well Hall, Eltham, and died, 1577.

Rupert, Prince; fortified Woolwich against the Dutch in 1667.

Salomons, Sir D., M.P. for Greenwich (including Woolwich); vindicator of Jewish liberties.

Sandby, Paul; famous artist, drawing master at R.M.A., 1768—1797.

Scott, Rev. Alex.; philosopher and lecturer, first Principal of Owens College, Manchester, was previously, from 1830 to 1846, Presbyterian minister at Woolwich.

Schalch, Andrew; first master-founder at Royal Gun Factories, 1716; died at Charlton, 1776.

Shovel, Sir Cloudesley, resided at May Place, Crayford.

Siemens, Sir W.; electrician and author. 1883.

Topley, William, F.R.S.; geologist, born here.

Vanbrugh, Sir John; lived at Greenwich, and built Gun Factories, etc., at Woolwich, 1717.

Woedsworth, Wm.; poet, lived occasionally at Nightingale Vale, with his daughter, Rotha Quillinan, and her husband, about 1835.

SCIENTIFIC INDUSTRIES.

A SURVEY FROM THE RAVENSBOURNE TO THE DARENTH.

Edited by T. A. Ingram, M.A., LL.D., and J. Stuart Ker, B.Sc., A.M.Inst.E. (Late Head of Engineering Dept., Woolwich Polytechnic).

Preface.

The district included in the descriptive survey of the Scientific Industries is that which stretches from the Darenth on the East and South to the boundary of Kent on the West, including also North Woolwich, Beckton, and Silvertown on the North.

The Darenth, or Dart (giving name to Dartford and the neighbouring village Darenth) is navigable for lighters for three miles, as the Dartford Creek, and supplies water power (to a certain extent supplementary to steam and other power) for the manufacture of paper and explosives. The creek gives easy access to the Thames, facilitating the export of manufactured goods and agricultural produce. Joining the Dartford Creek below Dartford there is the Cray river, lying west of Dartford, and navigable to within a mile of Crayford. On the Cray are silk and calico-printing works, tanneries, motor car works, and large paper mills.

The Ravensbourne on the West boundary is also navigable for one mile for lighters of 500 tons burden, and joins the Thames as Deptford Creek ; many industries are located in the neighbourhood of this creek. The Royal Dockyard, Deptford (see below), which was closed in 1869, and is now the Victoria Victualling Yard and the Foreign Cattle Market of London City (probably the largest in the world) formerly gave great importance to the immediately surrounding district, which still is an important industrial centre.

Between these two creeks there is an important reach of the Thames dotted with factories on both the North and South banks, and having one long succession of wharves, from which the manufactures of the district are shipped to all parts of the world, and to which also the raw products for manufacture come from the uttermost corners of the globe.

When we consider that the land bordering on the banks of the Thames over this reach was largely low-lying marsh land, necessitating embankments in places to prevent inundation, with a scanty population even well into the nineteenth century, and now has developed into an industrial district of fast growing importance, with potentialities of no mean order, it must be felt by all that nothing but honour is due to those pioneers of industry who, by their business acumen and their inventive genius, have raised the district to its present pre-eminent position.

At places there are found traces of Roman reclamation work in embankments which they raised against the inroads of the Thames, and, like all the engineering work of the Romans, this was done well. We may thus look on them as the pioneers of scientific industries in the district. It should be noted that the sites chosen for the early settlements, afterwards the villages of Greenwich, Woolwich, and Erith, were on the high land, between the alluvial marshes, where the solid strata jut on to the river.

Deptford, Greenwich, S. Woolwich, and Dartford were formerly the only places of any importance on this reach of the river, Deptford and S. Woolwich largely taking their positions as industrial centres, because within them were located the Royal Dockyards and the Royal Arsenal. At Deptford also were marine engine works, which in the early days of steam propulsion were pre-eminent. No doubt the growth of industries near the banks of the Thames was retarded by the unhealthiness of the marsh land, as fever and ague natural to such land were rife. But the expansion of London and the need of larger areas for factories than could well be got in the city compelled its occupation. The building of railways and proper roadways in the district was a great incentive to progress, and proper drainage with improved sanitation eliminated the pestilential element.

The railway from London Bridge to Greenwich, built in 1838, was not extended to South Woolwich until 1849, because of the large amount of tunnelling required and consequent expense involved, and a rival route to North Woolwich was opened in 1847, steam ferries being built to connect it with South Woolwich, so as to tap its traffic. From this time onward the industrial development of North and South Woolwich was phenomenally rapid, even though the extension of the South Eastern Railway to S. Woolwich in 1849 deprived the North Woolwich Railway of a large part of its traffic for a time. The opening of the Victoria Docks in 1855, rendered commercially possible by their vicinity to the North Woolwich Railway, which was now extended by a loop line to the north of the Docks, gave a further impetus to the development of scientifie industries in the immediate neighbourhood, as it converted the

desolate strip of Essex Marshes into a place of national importance. The success of these Docks led to the formation of the Royal Albert Docks, which, after some delay, were opened in 1880, land having been acquired in 1864. More than docks and improved railway facilities were needed for factories, established in this centre, to compete successfully with those in other parts of the country. An ample and cheap supply of coal was a *sine qua non*, and this was met by the laying down of improved coaling appliances and loading wharves, by means of which sea-borne coal could be discharged from the colliers rapidly and cheaply. Other coaling stations have been established as the need arose.

The further extension of the South Eastern Railway to Dartford, by way of Erith, marks further industrial progress in the district south of the Thames ; but later railway extension does not appear to have had any great effect.

Apart from paper mills at St. Mary Cray and St. Paul's Cray there are no industries of note in the southern portion of the defined district, the natural tendency being to locate the factories on or near the banks of the Thames, so as to get all the advantages accruing from water transport.

It is interesting to note here that the rolling and slitting of iron was first established in England at Dartford, by Godfrey Box, in 1590. The manufacture of iron was an important industry in Kent at one time, ironstone being found in the Wealden clays ; but the lack of fuel caused the last Wealden furnace to be put out in 1828, and iron manufacture now ranks as one of the dead industries of the district. (The possible development of the Kent coal fields in the future may once again bring Kent into prominence as an industrial centre). Dartford stands out, also, as one of the first places in England where paper-making was introduced, Spielman beginning its manufacture there in 1588, and the sixteenth century is, therefore, a remarkable and important one in the industrial history of Dartford.

CLASSIFICATION OF THE SCIENTIFIC INDUSTRIES.

The present-day scientific industries in the district can be classified broadly as follows :—

I. **ENGINEERING INDUSTRIES :**

(a) MECHANICAL.
(b) ELECTRICAL.

II. **INDUSTRIES OF APPLIED CHEMISTRY.**

III. **MISCELLANEOUS**—*i.e.*, those industries which cannot be specifically included under I. or II.

It will be recognised that such a classification, though convenient for tabulating purposes, is more or less imperfect, because it is almost impossible to say to which of these classes many of the industrial undertakings in the district belong, they, in fact, having departments coming under each class, as processes of manufacture nowadays are so complex and involved, necessitating a highly-trained staff of experts in different branches of science. A leading characteristic of each industry, however, has been taken to determine its classification as given in the list below.

By examining this classified list it can be seen that certain industries of the same nature have grouped themselves in well defined areas. Thus we find papermaking localised around Dartford, where its manufacture was first introduced ; Silvertown and North Woolwich together constitute the principal centre of the industries of applied chemistry, one firm after another making its home there, while Deptford is another centre of the same industry devoted to a particular branch. The cement industry is naturally located at Dartford, near the supply of material for its manufacture. The mechanical and electrical engineering industries are, however, more scattered, possibly because they require larger areas around them for their industrial processes.

I. ENGINEERING INDUSTRIES.

(a) Mechanical.

Name of Firm.	Locality.	Industry and Speciality.
Royal Arsenal*	Woolwich. ..	Ordnance and Munitions of War.
F. Braby & Co., Ltd.* ..	Deptford ..	Galvanised Tanks, Barge-building.
Fawcett, Mark & Co.	E. Greenwich	Constructional Work.
Fraser & Chalmers, Ltd. ..	Erith ..	Mining Machinery.
General Engine & Boiler Co., Ltd.	New Cross ..	General Engineering.
J. & E. Hall, Ltd.*	Dartford ..	Refrigerating Machinery.
Humphrey, Tennant & Co. ..	Deptford ..	Marine Engines.
Merryweather & Sons, Ltd.*..	Greenwich ..	Fire Engines.
Redpath, Brown & Co., Ltd.	E. Greenwich	Constructional Work.
Seagers, Ltd.	Dartford ..	Ironfounding and General Engineering.
J. Stone & Co., Ltd.*.. ..	Deptford ..	Brass, Copper and Ironfounding.
Thames Ironworks*	Deptford and Greenwich	Marine Engines, Steam Lorries, Petrol Delivery Vans.
Thames Ironworks*	Canning Town	Shipbuilding, Civil Engineering, Dry Docks for ship repair.
Troughton & Sims	Charlton ..	Surveying and Mathematical Instruments.
Vickers, Sons & Maxim, Ltd.*	Erith and Deptford	Manufacture of Ordnance and Munitions of War.
Vickers, Sons & Maxim, Ltd.* (Wolseley Motor Car Works)	Crayford ..	Motor Cars.

(b) Electrical.

Callender Cable Co., Ltd. ..	Erith ..	Electric Cables for Lighting and Power.
Indiarubber, Gutta-percha & Telegraph Works Co., Ltd.*..	Silvertown ..	Telegraph Cables and Instruments, Indiarubber and Gutta-percha articles, and Electrical Equipment.

(b) **Electrical.**—*Continued.*

Name of Firm.	Locality.	Industry and Speciality.
Henley & Co.*	N. Woolwich	Cables, Electrical Machines and Instruments.
Johnson & Phillips, Ltd. ..	Charlton ..	Electrical Apparatus and Instruments, Cables, etc.
London Electric Supply Corporation	Deptford ..	Generating Station.
L.C.C. Generating Station* ..	Greenwich ..	Supply for Tramways.
Siemens Bros. & Co., Ltd.* ..	Woolwich ..	Telegraph Instruments and Cables of all kinds.
South Metropolitan Electric Light & Power Co., Ltd.	E. Greenwich	Generating Station.
The Telegraph Maintenance Co.	Greenwich ..	Telegraph Cables and Instruments.
Thames Ironworks	Canning Town	Dynamos, Motors and Electrical Equipment.
The Western Electric Co., Ltd.	N. Woolwich	Electrical Apparatus.

II. INDUSTRIES OF APPLIED CHEMISTRY.

Arnold & Foster, Ltd.* ..	Eynsford ..	Papermaking, Hand-made and mould-made Papers.
The British Alizarine Co., Ltd.	Silvertown ..	Coal-Tar Dyes.
Brunner, Mond & Co., Ltd. ..	Silvertown ..	Manufacture of Caustic Soda.
Burroughs, Wellcome & Co.*..	Dartford ..	Manufacture of Compressed Medicines.
Burt, Boulton & Haywood, Ltd.*	Silvertown ..	Tar and Creosote Manufactory.
Chapman, Spencer & Messel, Ltd.*	Silvertown ..	Sulphuric Acid Manufacture.
Curtis & Harvey	Dartford ..	Manufacture of gunpowder.
"Daily Telegraph" Paper Mills*	Dartford	
District Chemical Co., Ltd. ..	N. Woolwich	
The Gas Light & Coke Co.* ..	Beckton ..	Gas Manufacture and making of Tar products.

Industries of Applied Chemistry—*Continued.*

Name of Firm.	Locality.	Industry and Speciality
Hills & Sons*	Deptford ..	Soap and Candle Manufacture.
W. Joynson & Son*	St. Mary Cray	Papermaking; high-class paper of all sorts.
J. Knight & Sons, Ltd.* .	Silvertown ..	Soap manufacture.
Lichtenstein & Co.	Silvertown ..	Manufacture of Chemicals for Breweries.
Loders & Nucoline, Ltd. ..	Silvertown ..	Oil Refining.
Abram Lyle & Sons, Ltd.* ..	Silvertown ..	Sugar Refining.
Odam's Chemical Manure Co.	Silvertown ..	Agricultural Manures.
North Woolwich Chemical Co.*	N. Woolwich	
Cray Valley Mill*	St. Paul's Cray	Papermaking; all classes of paper.
The E.C. Powder Works ..	Green St. Green, Dartford ..	Gunpowder for Sporting Cartridges.
A. E. Reed & Co., Ltd. ..	South Darenth	Papermaking; all classes of paper.
London Paper Mills Co., Ltd.*	Darenth and Hawley	Papermaking; all classes of paper.
T. H. Saunders & Co., Ltd.* ..	Silvertown ..	Bank-note Paper and all classes of paper.
The South Metropolitan Gas Co.	Greenwich ..	Gas Manufacture.
Suter, Hartman & Rahtjen's Composition Co., Ltd.	Silvertown	
Henry Tate & Co.*	Silvertown ..	Sugar Refining.
Vickers, Sons & Maxim, Ltd. ..	Dartford ..	Manufacture of all kinds of Explosives.
The Wall Paper Co.	Greenhithe ..	Wall Papers.
Wilkie & Soames	Greenwich ..	Soap Manufacture.
R. Wheen & Sons	Deptford ..	Soap Manufacture.
The Poyle Mills Co., Ltd.* ..	E. Greenwich	All kinds of Asbestos Goods.
The United Alkali Co.	Silvertown	

III.—MISCELLANEOUS INDUSTRIES.

Name of Firm.	Locality.	Industry and Speciality.
Artillery Cement Co.	Greenhithe ..	Cement Manufacture.
The Associated Portland Cement Co.	Greenhithe ..	Cement.
Co-operative Wholesale Society, Ltd.*	Silvertown ..	Flour Milling.
Wm. Cory & Son, Ltd.* ..	Silvertown, Erith, Charlton	Coal Wharves and Barge-building.
The Delta Metal Co., Ltd. ..	New Cross ..	Bearing Metals.
The Deptford Pottery Co.* ..	Deptford ..	Crucibles.
Foreign Cattle Market.. ..	Deptford ..	Cattle Market of London.
Greenwich Inlaid Lino Co., Ltd.	Greenwich ..	Linoleums.
W. Griffiths	Silvertown ..	Wood and Stone Paving.
Hepburn & Co.	Dartford ..	Tanning of Leather.
J. Hyland & Co.	Dartford ..	Silk Printing.
J. Keiller & Sons, Ltd. ..	Silvertown ..	Manufacture of Marmalades and Jams.
North Pole Ice Co.	Deptford ..	Ice Manufacture
The Portland Cement Co. ..	Dartford ..	Cement Manufacture.
C. Price & Co.	Erith ..	Oils.
Royal Observatory*	Greenwich ..	Astronomical Observations.
Royal Victoria Victualling Yard*	Deptford ..	Supplies to the Navy.
The Silicated Stone Works ..	Greenwich	
Silk Printing Works	Crayford ..	Silk Printing.
Stone Court Cement Works ..	Greenhithe ..	Cement Manufacture.
Val de Travers Co.	Deptford ..	Patent Flooring.

* Signifies that a note upon the history and scope of the firm's work appears on the following pages.

Royal Arsenal, Woolwich.

The history of Woolwich Arsenal does not stretch so far back as that of the Dockyard. As a manufacturing establishment, it can boast only of an antiquity of about 180 years, but as a military post and stores depôt its history commences in the seventeenth century. Previous to 1805 the Royal Arsenal was known by the name of "Tower Place" or "King's Warren," and so early as 1667 a portion of the present site is said to have been acquired by the Board of Ordnance for the purpose of throwing up a battery to protect Woolwich against a possible invasion of the Dutch fleet. Some authorities state that even a century earlier than this the present site of the Arsenal was provided with defences. There is, however, an authentic record extant, under date of July 9th, 1664, making mention of storehouses for powder and sheds for repairing ship carriages.

From storage to workmanship was the next step, and we find in 1668 that the guns, carriages, and stores previously concentrated at Deptford were ordered to be removed to Woolwich, and that in 1683, 89 condemned gun carriages were broken up and their iron-work taken out. In 1695 the laboratory previously at Greenwich was moved to Woolwich.

Prior to 1716 the ordnance required both for the military and naval services was supplied by private manufacturers and afterwards proved at the Government proof grounds. The Moorfields foundry (in the present City Road, near Finsbury Square) supplied the greater number of the guns and mortars required for the Ordnance, and it was a disastrous explosion at this foundry in 1716 which determined the Government on having a brass foundry of its own for casting brass ordnance. This determination was accordingly carried out in 1716. The first master-founder, or proof-master, was Andrew Schalch, who held the post for sixty years. It may be mentioned here that the story which has obtained considerable credence that to Schalch was due the credit of having founded Woolwich Arsenal has been very clearly disproved by Lieutenant Grover in a most interesting paper on the history of the Arsenal ("Proceedings, R. A. Inst.," Vol. VI.).

The present Pattern Room is said to have been designed by Sir John Vanbrugh. It occupies a site on which stood, so far back as the fourteenth century, a building used as a look-out tower. Also near the same site stood, until 1786, a tall brick building (a

wooden model of which is in the United Service Institution, Whitehall), said to have been occupied by Prince Rupert and named after him "Prince Rupert's Tower." The Pattern Room was, in 1741, converted for the use of the Royal Military Academy, and notwithstanding the opening of the present Academy on the Common in 1806, was used for instruction purposes down to 1856, when all cadets were finally removed from the Arsenal.

In 1772 George III. paid his first visit to what had now become an extensive manufactory of implements of war. An interesting account of this visit appears in a newspaper of the time, his Majesty being shown "the various progressions of casting brass guns, such as the preparation of the clay, forming the moulds, fixing the trunnions, and the motion of the fire in the furnaces, occasioned by the subterraneous galleries that convey an uncommon blast of wind from every quarter." The Royal visit was repeated in 1805, and, as a consequence, the ordnance establishment received the name of "Royal Arsenal." The following extract from the "Gentleman's Magazine" of July, 1805, describes the incident :—

> "Thursday, June 27. The Ordnance Board have signified to Gen. Lloyd, who commands the artillery at Woolwich, that the 'Warren' at that place is no longer to bear that name ; but from this time to be denominated the 'Royal Arsenal.' The old name had its origin from the place having actually been a rabbit warren, but the name of one of the tamest of all animals was certainly ill-suited to the nature of the place. On the recent Royal visit to what is called the Warren, where all ordnance, stores, ammunition, etc., are lodged, his Majesty noticed how little appropriate the name was to the place, and suggested the propriety of changing it to that of 'Arsenal.' The Master-General admitted the justice of the idea, and instantly adopted it ; henceforward, therefore, in compliment to his Majesty's suggestion, the Warren is to be called 'The Royal Arsenal.'"

The growth of the Royal Arsenal during the nineteenth century was very rapid ; a very considerable amount of the excavating and building required for the extension was carried out by convict labour—indeed, as early as the middle of the eighteenth century convicts were extensively employed upon the works in the Warren. The main entrance gate to the Arsenal was erected in 1829.

The Arsenal Establishment.

At the present day the establishment of the Arsenal for the manufacture of ordnance and munitions of war comprises the three leading factories known as (a) the Royal Laboratory, (b) the Royal Gun Factory (to which is attached the Torpedo Factory), and

(c) the Royal Carriage Department. There is, further (d), the Building Works Department, not directly concerned in the manufacture of ordnance. These departments of the Arsenal, together with the Royal Small Arms Factory at Enfield and the Royal Gunpowder Factory at Waltham Abbey, constitute the Royal Ordnance Factories. Other branches of the Army Service located at the Arsenal, and closely connected with the manufacturing departments, are the Army Ordnance Department, in charge of all the stores, the Inspection Department, and the Chemical Department.

The total area of the Arsenal amounts to about 1,285 acres, of which 407 acres are within the boundary walls. Nearly 100 acres are covered by the various factories, stores, and other buildings.

(a) The Royal Laboratory. In this extensive factory ammunition of every description used in warfare is designed and manufactured ; shells from 1 inch to 17.25 inches in diameter, with their time or percussion fuses which determine the time or place of explosion of the shells when fired ; cartridges of all kinds, from ·303 for rifles up to the large self-contained quick-firing kind ; also ammunition used for independent loading, rockets, and many other varieties. The machinery used is very specialised, and many of the processes of manufacture involve intricate operations. Many automatic machines of the latest design have been added in recent years which produce so accurately parts of the shells and fuses, many hundreds at a time, that they are all interchangeable.

(b) The Royal Gun Factory. Rifled steel ordnance of all classes (except small arm rifles and machine guns) are manufactured in this department, both for the Navy and the Army. The guns produced vary in calibre or internal bore from 3 inches up to the latest type of 12 inch rifled guns having a length of about 45 feet, and varying in weight from 3 cwts. to 60 tons without accessories. Guns of even greater calibre than 12 inches have been produced, but they have been superseded by the smaller calibre guns having greater length, very much higher muzzle velocity, and greater penetrating power. The machines used in the manufacturing operations required on these large guns are of an exceptionally heavy description, and independent electric driving has been largely adopted in recent years, owing to its greater adaptability.

The Torpedo Factory is concerned with the development and manufacture of torpedoes for the ships of the Navy. These torpedoes are propelled by compressed air, a charge of gun-cotton is carried in the fore part and the steering mechanism, including the gyroscope, is situated in the rear portion.

(c) The Royal Carriage Department. The design, manufacture and repair of gun carriages and mountings of all kinds are carried on in this department, also the making of ammunition and forage wagons, pontoon trains, ambulance wagons, and many other articles. Woodworking plays an important part in the manufacture of these various carriages and wagons; but the increasing use of steel is a very noticeable feature of late years.

(d) The Building Works Department. The construction and maintenance of all the Arsenal buildings is one part of the work of this department, but it is also concerned in the manufacture and supply of gas, and in the production of all the electric and hydraulic power required in the Arsenal, large Central Stations having been installed with the latest and most economical types of machinery.

Owing to the large extent of ground covered by the Arsenal, the extreme width and length being one and three miles respectively, a complete railway system has been laid down for general transport purposes. There are 15 miles of broad gauge railway, served by 19 locomotives, mostly of the four-wheel coupled type, and 300 wagons. In addition, there are 32 miles of narrow gauge railway, 40 steam and 5 oil locomotives and about 1,000 trucks. For the convenience and quick transport of passengers, a railway service has been instituted on the narrow-gauge lines, and there are ten stopping places from end to end, and fourteen up and down trains per day, run to time table.

F. Braby & Co., Ltd., Deptford.

This Deptford firm, well known in the commercial world as barge builders and manufacturers of galvanised iron cisterns and tanks, was established in 1839 at the Fitzroy Works, Euston Road, London. The Deptford works were started in 1867 to take advantage of the facilities for water transport offered by the Thames. That business acumen was shown by the selection of the present site is evidenced by the fact that an extension was necessary two years later.

The employees number three to four hundred, and their welfare is ever the consideration of the firm, as shown by the numerous clubs which have been instituted for raising the moral tone and improving the social conditions of the workers, and giving facilities for intellectual development. A library, opened in 1870 with about 100 books, has now nearly 2,000 volumes of standard literature available for home reading or for use in the reading room. Lectures and entertainments are arranged in the winter months, and excursions in the summer to museums and other places of interest. Every encouragement is given by the firm to the employees to take advan-

tage of the facilities for serious study offered by the various evening schools in the district. The happy relations existing between the firm and their employees have no doubt largely conduced to the well-being and prosperity of the company.

J. & E. Hall, Ltd., Dartford Iron Works.

These works, established in 1875, furnish an example of a large engineering concern in this district which has developed a field of industry of its own by creating designs of refrigerating machinery on a system of universal applicability, and used on land and sea in all parts of the world. To keep pace with the demand, it has been necessary to develop and modernise the works in recent years. Now they cover several acres of ground well situated near river and railway, and capable of a large output.

The original firm was founded by John Hall, carried on at his death in 1836 by his two sons John and Edward, and in 1900 turned into a limited liability company. In addition to the engineering works, the founder acquired gunpowder mills at Faversham, paper mills at Horton Kirby, and other manufacturing concerns. A world-wide reputation was acquired by him for papermaking and gunpowder machinery. Up till recently the manufacture of gunpowder machinery was continued as a speciality, complete plants being installed in all parts of the world. He did much to develop the beam engine and " elephant " boilers in the early days of steam.

Richard Trevithick was engaged at these works, and amongst other things brought out what was very probably the first steam turbine engine.

The first trunk engines ever made were designed and constructed at these works for the s.s. " Dartford," in 1835.

It was not till 1878 that the works became connected with refrigeration for the elimination of heat, when the Giffard Cold Dry Air Machine was brought over from the Paris Exhibition of 1877, and for some years the firm devoted their attention to the fitting up of ships for the carriage of foreign meat on this system.

The most common method now of refrigeration is to cause some liquid to pass to the gaseous state, thus producing cold, and the agents chiefly used are ammonia, carbon dioxide, sulphur dioxide, and ether. The selection of the refrigerating agent is one presenting some difficulties, and this firm adopted carbon dioxide as the most suitable, it being non-poisonous, non-corrosive on metals, cheap, and having an efficiency fully as great as any of the other agents. The carbon dioxide apparatus was brought

out in 1888 by this firm, and so successful was it, and in such demand, that all other forms of engineering work were dropped in its favour, so that the technical staff could concentrate attention on improvements in the design and extend its field of application ; also, that special plant might be laid down for the economical production of the apparatus.

These works were amongst the first to adopt the electric welding process, by means of which refrigerating coils are made out of ordinary piping. Miles of piping are used in large installations of the apparatus.

Some years ago the Metric System of measurement was introduced with considerable advantage, and no difficulty was found in its use by the employees, who number about 1,000.

The works are driven throughout, and lighted by electricity, generated by their own power plant.

The highest honours have been gained at the principal Industrial Exhibitions, and the exceptionally large international patronage enjoyed by the firm speaks volumes for the excellence of their speciality.

Merryweather & Sons, Ltd., Greenwich.

This firm is known throughout the world as makers and patentees of fire-extinguishing apparatus. The history of this company dates back for upwards of 200 years, having been established by Mr. Nathaniel Hadley in 1690 for the manufacture of fire pumps and like apparatus. Under this name the business was carried on until 1836, when Mr Moses Merryweather (who had been connected with the firm since 1807) became proprietor, and it has since been carried on by his family.

The present works are situated in the Greenwich Road, and comprise commodious departments for the manufacture of all the apparatus now used for fire-extinguishing purposes, from hose to engines. The improvements in this branch of engineering have been very extensive during so long a period, and at the works are to be found, in a museum, many curios in the form of obsolete apparatus, together with relics taken from some of the largest and most disastrous fires during the past two centuries.

To the firm of Merryweather belongs the credit not only for many of these improvements, but also for inspiring and encouraging both individuals and municipalities to greater efforts for the protection of life and property from fire, and their unique experience has been found of great assistance when schemes having this laudable object have been prepared.

J. Stone & Co., Ltd., Deptford.

Established in 1842 by the late Josiah Stone, this firm, at the outset of their career, had their workshops in the railway arches and land adjoining Deptford Railway Station, for the production of the many articles in brass, copper, and iron for which they are now noted. The excellence of their productions led to such an increased demand that the present commodious works had to be erected at the junction of the Greenwich and North Kent Railways. Patents have been taken out at various times for steam and water pumps, which are used in the British Navy, by nearly all the foreign governments and the principal shipping companies and ship builders in this country. In connection with the works, the "Welcome Institute," with its library, clubs, and like agencies, has been founded by the firm for the moral and intellectual benefit of their employees and for recreation outside of business hours.

The Thames Iron Works, Shipbuilding and Engineering Co., Ltd.

The present works, which comprise departments for shipbuilding, boat building, civil engineering, electrical engineering, and Dry Docks at Canning Town, and a department at Greenwich and Deptford for the manufacture of marine engines, boilers, steam-driven lorries, and petrol vans, has developed from the shipbuilding works of Ditchburn and Mare, which migrated from Deptford and settled on the Blackwall side of Bow Creek in 1836, and at which iron shipbuilding was first commenced on the Thames. Charles Mare suggested to his partner in 1846 that the firm should lay down rolling mills for iron on the land on the other side of the Creek, but being opposed, the partnership terminated, and Mr. Mare started for himself on four acres of reed covered land, which was cleared and had workshops and slipways laid down on it. Here the Menai tubular bridge was constructed in 1846, and also the Westminster Bridge. In carrying out a contract in 1856 for gunboats for the Crimean War, Mr. Mare became insolvent, and his works were then taken over by the present company. Mr. Mare promoted another shipbuilding company, laying down mills for rolling armour plate, but he found it impossible to compete against ironworks in the North, owing to the price of coal, and ultimately he died in poverty in 1898.

Since 1836, nearly 900 vessels of all sizes have been constructed, having a total displacement of nearly 500,000 tons. Many of these were for the British Navy, and others for foreign governments.

In 1860, H.M.S. "Warrior," the first sea-going armourclad in the British Navy and in the world was launched from these works. The constructive methods and details of this new departure in

warship building were first worked out by the firm for the benefit of all ship-builders, the idea being taken from a suggestion of Napoleon III. to plate two floating batteries with armour plate for use in attacking forts in the Crimea. She was only struck off the lists after forty years' service, her original engines being still in use then.

The success of this armour-clad gave the lead to other nations, and the early fleets of Europe were largely launched on the Thames.

During the last quarter of a century many vessels of war have been built by the firm for the British Navy, and also several of the Japanese battleships engaged in the recent war.

The works have been extensively remodelled and extended in recent years, and new plant of the latest design added.

In 1899, the company acquired the old-established marine engine works of John Penn & Sons, Greenwich, so that the machinery, as well as the hulls, of the largest vessels might be built. These works were enlarged and improved by the introduction of modern machinery, and in addition to marine engines and boilers, steam lorries and petrol vans are constructed there.

Not only are warships built, but every type of craft afloat. In 1895 boat building was started, as it was found that satisfactory wooden boats could not be obtained from outside sources. All the boats of the Royal National Lifeboat Institution are now built by the firm under agreement, and a large stock of timber is stored, so that it may be sound and well seasoned for the construction of the lifeboats. Nearly 200 boats have already been built for the Institution.

In the civil engineering department many important structures have been built, including several of the Thames bridges, railway station and other roofs, large dock gates for many of the important docks at home and abroad, caissons, jetties, and pontoons.

The Dry Docks, built 40 years ago at a cost exceeding a quarter of a million sterling, can accommodate large vessels, the large dock having 22 feet of water over the sill.

Vickers, Sons & Maxim, Ltd., Erith, Crayford, and Dartford.

The firm of Vickers, Sons & Maxim, Ltd., which has several establishments in this district, is one of the largest industrial concerns in the country, being an amalgamation of important undertakings, brought about for the purpose of enabling one company to construct, from the raw material, battleships complete in all respects, entirely by its own resources; also to provide ordnance and munitions of war for attack and defence ashore and afloat.

With the steel making, armour plate and gun works at Sheffield, the ship-building and ordnance works at Barrow-in-Furness, the motor car, tool, and electric works at Birmingham, and other establishments we are not concerned in this survey. But the Ordnance Works at Erith for the manufacture of quick-firing, Maxim, machine guns, and of mountings and ammuniton for all forms of guns; the motor-car works at Crayford; the powder and ammunition factory at Dartford; the firing proof ranges at Eynsford and Swanley call for more than a passing reference.

The acquisition of the Maxim-Nordenfelt Guns and Ammunition Company, Ltd., at Erith and Crayford by the Vickers firm came about in 1897, the Maxim factory at Crayford and the Nordenfelt factory at Erith having amalgamated in 1888. An active policy of extension and improvement has gone steadily on since that time, and a noteworthy feature has been the gradually extended use of electric driving of machine tools in the various factories.

The Erith Works are in three portions—the main factory, the North Kent Works, on the river bank, with large wharf, and the St. John's Works, which are the latest addition, comprising large wood-working shops and a Maxim and sights factory, the whole, including the proof ranges, covering nearly 20 acres. The Crayford works, formerly the Maxim factory, are now given over to the construction of motor cars of the well known Wolseley type, while the Dartford factory consists mostly of isolated huts for the manufacture of all kinds of explosives.

The Indiarubber, Gutta-percha, and Telegraph Works Company, Ltd., Silvertown.

The founders of this firm were S. W. Silver & Co., outfitters, Cornhill, the third firm to settle in Silvertown. In 1852, one acre of ground was purchased, and the waterproofing factory of the firm was removed from Greenwich. Soon seven acres were acquired, two being secured from Howard Brothers, who, in 1851, had built a glass factory which was not successful. No roads were yet in existence in the district, the works being reached by way of the river wall or Barking Road.

The establishment of coaling stations by W. Cory & Son in 1855, which reduced the price of sea-borne coal very considerably, made it possible for this firm and others in the district to compete successfully with their rivals in the north near the coal supplies.

Large extensions of Silver's factories were necessary from time to time, as the manufacture of all kinds of rubber goods and ebonite developed, and so many residents had gathered round the works that the name of Silvertown was given to the district in honour of

the firm. Ebonite is hardened rubber, and "the method of its manufacture was discovered," says Colonel Silver, "in a curious manner. Hollow indiarubber balls are made out of sheet rubber, cut in two sections, and inflated by oxalic acid in a bath of melted sulphur. During the process one of the balls fell unnoticed to the bottom of the bath. When found at the end of the week it had hardened into ebonite." Ebonite is invaluable in the manufacture of electrical instruments, because of its electrical non-conductivity, and it is much used also because of its resistance to chemical action. Its accidental discovery therefore was of great value to the firm commercially.

In 1864 the business was converted into a limited liability company, Silver's Indiarubber Works and Telegraph Company, Ltd.

The manufacture of submarine cables was commenced by the firm, and in 1868–9 a cable was laid between Havana and Key West, U.S.A., under the direction of Sir Charles Bright, who had been associated with the laying of the first unsuccessful Atlantic cable in 1858. The ss. "Dacia" was acquired at this time, and converted into a cable ship. Since this cable was laid, over 40,000 miles of submarine cable have been laid by the company, and other cable ships have been acquired.

The works now occupy over seventeen acres, and some 3,000 employees are engaged by the firm in their various departmeuts. To cope with an extensive continental business, works have been constructed at Persan, Seine-et-Oise, France.

The weekly consumption of coal at the Silvertown factories exceeds 1,000 tons a week, which shows the importance of an ample supply of cheap coal. In addition to all kinds of rubber and gutta-percha goods, whose name is legion, and the use of which is rapidly extending, the firm manufacture everything connected with electricity.

Henley & Co., North Woolwich.

The growth of North Woolwich is identified with these electrical works. Mr. W. T. Henley, the founder of the firm, worked in the docks for five years learning the use of tools in the making of electrical instruments, then, about 1833, he came under the notice of Wheatstone, of telegraph instrument fame, who forthwith engaged him. Mr. Henley must have been a shrewd business man as well as an inventor, two qualities which do not always go together, and while with Wheatstone he invented a magnetic telegraph and promoted a company to purchase the patent.

In 1853, Mr. Henley purchased 12 acres of ground at North Woolwich, on which he laid out works for the manufacture of submarine cables and electrical appliances. He laid a cable between India and Ceylon in 1858, and the eastern end of the first successful Atlantic cable in 1865. When later on he tried to draw his own sheathing wire, the high price of coal over what obtained in the North brought him to grief, and the firm was reconstructed, Mr. Henley being appointed manager of the submarine department.

L.C.C. Power Station, Greenwich.

The power station at Greenwich for the L.C.C. tramways, the first portion of which nearest the river is erected and in use, will, when completed, be one of the most noteworthy generating stations in existence, and will be replete with machinery and appliances representing the very latest practice in central station work.

The site of the station adjoins the Thames near to Greenwich Hospital, and covers an area of nearly four acres, the river frontage being 240 feet in length. A pier 200 feet long has been built to accommodate steamers when discharging coal, etc.

The building at present erected is divided into two sections, one occupied by boilers for the generation of steam and the other by engines and dynamos. Coal bunkers above the boiler house can store nearly 7,000 tons of coal, and outside the main building, nearer the river, there is another bunker of about 2,000 tons capacity to receive the coal from the steamers.

To ensure stability for the buildings, they have been erected on a concrete raft six feet thick, extending over the whole area of the ground. The main building has a steel framework covered externally with brick walling, and there are two chimneys, of striking design, rising to a height of 250 feet above the ground level and making a very prominent landmark in the district. The engine room at present erected can accommodate engines of 7,500 horse-power.

Siemens Brothers & Co., Ltd., Woolwich.

The founder of this firm in Germany was Dr. Werner Siemens, the eldest of six brothers, all with a strong bent towards scientific research. The family of Siemens had been cultivators of the soil for centuries and this generation was the first to break away from the ancestral occupation. Dr. Siemens inspired the fortunes of the English firm of Siemens Brothers established by his younger brother William, who was destined to be the merchant of the family had the domain of mechanical invention not claimed him.

Werner and William had for some time been at work on an improvement in electro-depositing, and in 1843 William came to this country, as it took the lead in the manufacture of electro-plated wares and offered the best field for the disposal of the idea. Elkington of Birmingham bought the invention, further ideas were developed by the brothers, and William again returned to England in 1844 with the "chronometer governor" and the process of "anastatic printing." He received so much encouragement from leading engineers and scientific men here that he decided to make England his home.

Meanwhile, Dr. Werner was devoting his attention to the electric telegraph, and in 1847 the firm of Siemens & Halske was established in Berlin. William co-operated with them in making their inventions known in England, while he at the same time, in conjunction with his brother Frederick, developed his own inventions, especially the "regenerative furnace." So rapidly was the electric business—especially submarine telegraphy—developing, that it was found necessary to establish a factory here, and in 1858 William took small premises in Millbank, Westminster, where he had from 80 to 100 employees. He was principally engaged on the manufacture of telegraph instruments, batteries, etc., and also carried out many experiments. The "regenerative furnace" was improved in 1861 by substituting gaseous fuel in place of solid fuel.

The capacity of the Millbank works soon became overtaxed by the contracts on hand, and the firm chose a piece of land on the banks of the Thames at Charlton Pier. Here came into existence, in 1864, the embryo of the present works, designed for the manufacture of all kinds of telegraph instruments, apparatus, and materials, including submarine cables, which could be easily shipped into vessels alongside the wharves. The works gradually extended, and now they cover an area of about 15 acres. The firm was incorporated as a limited company in 1880.

Sir William Siemens died in 1883, he having been knighted the same year in recognition of his services to science and to the country of his adoption.

During the period 1904–5, the dynamo and motor branch of the business, largely growing in importance, was transferred to new works at Stafford.

The works now comprise submarine cable shops, railway signalling shops and electrical accessories, stores, instrument shops, also shops for the manufacture of cable insulated with gutta-percha and with paper, while there are saw mills, pattern-making and joinery shops, and shops for all the various adjuncts in the manufacture of cables of all types.

The power house, where are situated the steam generating plant and the dynamos for electric lighting and driving of the works, is very complete, with plant of the latest and best types.

There is a scientific library for the use of the members of the Engineering Society, the nucleus of which was the gift of Dr. Obach.

A well-equipped laboratory for testing samples of all materials used, as well as for original research, is also attached to the works, and, in the show room, every possible kind of telegraph instrument made by the firm can be seen.

A telpher transporter connects various parts of the works with the wharf, thus facilitating the handling of the products.

The Cable Department forms the largest section of the works, the firm having been connected with submarine telegraphy since its inception, and having laid many of the most important cables.

The firm finding from experience that existing types of vessels were unsuitable for cable laying, had the "Faraday" specially designed in 1873. She is fitted with machinery of all kinds for laying cables, and for grappling and recovering lost cables. Her three tanks can hold 1,700 miles of cable.

There is a sick and pension fund in force at the works, the sick fund being supported by voluntary contribution from the employees, the company providing the medical attendance. The pension fund was started in 1872 by Dr. Werner Siemens, a munificent donation to it being subsequently made at his death. The income is derived from interest at 5 per cent. on the capital, guaranteed by the company, and a yearly contribution is made by the firm equal to 1 per cent. on the aggregate of wages paid during the year. The management of the fund is in the hands of a committee elected by the employees, and pensions are granted to employees (male and female) incapacitated by old age or by accident, and after the death of employees their near relatives are assisted as far as possible.

PAPER MILLS.

Summary of Productions.

Arnold & Foster, Ltd., Eynsford.—Hand-made and mould-made papers. Extra superfine account book and writing, superfine account book, loan, bank, bank note, special watermarked-papers, special "unbleached Arnold" drawing and printing papers. Three vats. One machine.

Daily Telegraph Paper Mills, Dartford.—Four machines.

W. Joynson & Son, St. Mary Cray.—Writings, tub-sized loft-dried papers, account book papers, envelope papers, tea loans, cartridge and drawings in sheets and rolls, banks and loans, type-writing papers, chart and map papers, lithographic and plate papers, bank note and cheque papers, cards and papers for pasting, exact water-marked papers for postage stamps, cheques, etc., special colours matched, chemically pure papers for special purposes. Two machines, 66 and 68 inches.

Cray Valley Mill, St. Paul's Cray.—Tub-sized writings, account book papers, envelopes, blottings, cartridges, loans, banks, ammunition and type-writing papers. Two machines, 63 and 72 inches.

London Paper Mill Company, Ltd., Dartford.—Printings, machine finished and super-calendered cream laid, antique, silurian, cartridge, also better class news, etc. Five machines making 62, 71, 84, 94, and 103 inches.

T. H. Saunders & Co., Ltd., Darenth.—Writing, drawing, account book and loan papers, patent bank note, cheque and special watermarked papers.

—— Hawley.—Loft-dried account book and writing papers, superfine printings, blotting, cartridge, and coloured papers, lithographic, white and coloured patent cheque and loan papers.

The Poyle Mills Co., Ltd., East Greenwich.—Asbestos millboards and all kinds of asbestos goods. Two machines.

Burroughs, Wellcome & Co., Dartford.

This firm of manufacturing chemists was established upwards of a quarter of a century ago. They are successors to Brockenden who, in 1842, originated compressed medicines in the shape of bi-convex discs. By means of their productions they are credited with having revolutionised the method of administering medicines, and they were also pioneers in the introduction of some of the most notable agents employed in modern medicine. Original scientific research is a marked feature of the work of the firm, and, in fact, the present principal, Henry S. Wellcome, is the founder of two chemical and physiological research laboratories, which, though under separate direction, yet do much scientific work for the firm, and results of the investigations at these institutions are communicated to the learned societies. Though this survey is more directly concerned with their chemical works at Dartford, which are organised for manufacturing operations on a large scale, yet it may be mentioned that there is a commodious wharf at Southwark, which affords valuable transport facilities, and also extensive city offices.

In the manufacture of fine chemicals, alkaloids, and galenicals of exceptional purity, a special and laudable aim is to bring back to this country industries which were slipping away. Many new processes of manufacture of medicinal agents have been developed by their highly qualified scientific workers. Exclusive machinery has been invented and constructed for use in the manufacture of their compressed products and remedial agents which are issued under the "Tabloid," "Soloid," and other trade names, and are characterised by portability and preservability in all climates, as well as by purity. This machinery operates with extreme precision, so as to ensure unique accuracy of dosage, ranging from 1-1,000th of a grain to one dram and more. Every great British and foreign military and exploring expedition of recent years has been medically equipped by the firm, which has a world-wide connection. The highest awards of the great international exhibitions of the world have been made for the scientific excellence of their products.

A notable characteristic of the firm in their relations with their employees, who number over 1,300, is the welfare work. A club and institute at the Old Manor House, Dartford, with its beautiful park and buildings forming libraries, reading and writing rooms, assembly rooms, gymnasium, etc., has been founded to promote harmony and social intercourse among the employees. By these means a pleasant resort is provided to encourage mental and physical recreation outside of business hours, by means of music, literary and other entertainments, technical and other classes, athletics, field sports and games. The club grounds also afford facilities for boating, swimming, fishing, and all outdoor sports.

BURT, BOULTON & HAYWOOD, LTD., SILVERTOWN.

When the Victoria Docks were first opened in 1855, this firm, under the name of Burt & Co., settled there, and in 1870 they extended their premises by taking over Prince Regent's Wharf on the Thames. They have an extensive creosoting business, and tar products from practically the whole of Europe are treated. Apparatus which they have for distilling the tar products is such that fractions, whose boiling points differ only by one-tenth of a degree, can be separated. Most of the patent disinfectants on the English market are really manufactured at Regent's Wharf, but the creosoting of railway sleepers is the important branch of their business.

CHAPMEN, SPENCER, & MESSEL, LTD., SILVERTOWN.

This firm is the largest of the manufacturers of sulphuric acid in the South of England. The first to produce sulphuric anhydride on a commercial scale by means of a catalytic process, they were able to apply this mode of manufacture to the production of commercial sulphuric acid.

The Gas Light and Coke Company, Beckton.

Land to the north-east of North Woolwich being cheap in 1868, the Gas Light and Coke Company, the oldest, largest, and most scientific gas company in the world, bought 500 acres, on which they erected works. Houses were soon built around the works for the accommodation of the employees, and the district assumed the name of Beckton, after Mr. S. A. Beck, the chairman of the company when the land was purchased. A church, chapel, institute, canteen, and recreation ground were added. The company had been formed in 1809, obtaining a charter the year following to supply "the cities of London and Westminster" with gas. Pall Mall was the first street lighted by them, and in spite of opposition and ridicule the new illuminant steadily supplanted other and cruder forms of lighting or want of lighting. The object of erecting gas works at Beckton for a gas supply to the West End of London, involving the running of two supply mains each four feet in diameter to Kensal Green, at very considerable cost, was to take advantage of the cheaper transport of seaborne coal, compared to rail transport, and the improved appliances for rapidly and cheaply discharging the coal at their wharves which they laid down. The company has two wharves, with berths for six steam colliers of 2,000 tons, and thirty locomotives are in use to take the coal to the retorts. These works can supply more than half the maximum output of the other nine works belonging to the company. Further inland are the tar products works, under quite separate management, and there prussian blue, other cyanides, and sulphuric acid, besides the ordinary tar products, are made. A sulphur recovery process is also carried on. The company has a private road and railway to Canning Town, each about three miles long.

Hills & Sons, Deptford.

This firm was founded in 1822 by the late Mr. John Hills, and they are manufacturers of soap chiefly, though Kent composite candles are also made by them. Mr. Hills was a churchwarden of St. Paul's for many years.

Knight & Sons, Ltd., Silvertown.

Soapmaking is one of the industries of importance in the district, and the "Primrose" and other brands made by this company are well-known and household words. But soapmaking, to be commercially successful, cannot stand alone, and bye-products must be utilised. The stearine, or solid residue remaining in the hydraulic presses after expression of the oil from the fats used, is made into candles. What oil is not required for the best soaps is sent abroad to be manufactured into margarine. Egyptian cotton seed is

largely imported by the firm, and they express the oil from this in their factories for the manufacture of soft soap, the residue forming cotton seed cakes for the feeding of live stock. Part of the oil is exported, to be made up into butterine. Some 500 employees are engaged in this industry. In addition to an institute, the Royal Primrose Hall, there is a recreation ground provided for the employees.

Abram Lyle & Sons, Ltd., Silvertown.

Originally in Greenock, the one-time home of sugar refining, as timber merchants and makers of boxes and casks for the packing of sugar, this firm, best known for their golden syrup in its familiar tins, took up the sugar industry in 1862, but finally settled at Silvertown in 1881. They have an output of nearly 2,000 tons of sugar a week, in addition to syrup.

Odam's Chemical Manure Co., Silvertown.

This company is one of the oldest in Silvertown, starting in 1852 on land to the east of the entrance to the Victoria Docks, but the works were much enlarged in 1866, when the Privy Council ordered all foreign cattle to be landed at the wharf made by Mr. Odam and slaughtered in slaughter houses there to prevent the rinderpest being carried inland.

Nitrates, phosphates, and superphosphates for manuring land are produced at the rate of about 100 tons per diem.

Henry Tate & Co., Silvertown.

This firm, which has a leading position in the sugar trade, Tate's cube sugar being a household word, came from Liverpool in 1877, where they had been established from 1862, when they bought the sugar refinery business of John Wright & Co. Previous to 1876, sugar was manufactured in loaves, which were cut up into small cubes for domestic use by the retailers, with the aid of the "guillotine"; but a patent for manufacturing sugar in small cubes ready for use was taken out by the firm in 1876, and their migration to Silvertown was for the purpose of developing their patent, which they successfully accomplished against all opposition. The patent was successfully contested in the Law Courts in 1882 against the Paris firm of Say & Co. The weekly output of 600 tons in 1878 has risen to over 2,000 tons, and, to cope with this, some five or six hundred men besides girls are employed. For the welfare of these employees out of business hours the Tate Institute was erected near the works.

Sir Henry Tate, the founder of the firm, is known for his munificent gift of the Tate Picture Gallery to the nation, and when he died in 1899 he left a large sum to charity.

Co-operative Wholesale Society, Ltd., Silvertown

Silvertown Flour Mill.

One of the most imposing buildings in Silvertown, as seen from the south side of the river, is the Silvertown Flour Mill replete with the most improved flour milling plant in the country. Occupying a site of about five acres, with a river frontage and railway sidings at the back, it is exceptionally well placed for receiving British wheat, and delivering the finished products to all parts of the country.

There are two complete roller milling plants, capable of dealing with 14,000 lbs. per hour, and an important feature is that the products are never touched by hand during all the processes of manufacture. Elevators receive the wheat at the wharf, direct from the hold of the vessels, or from the railway vans, and deliver it to band conveyors, which carry it to the storage bins. From these bins the wheat, which does not require washing, passes to the dry cleaning machinery, and thence through the various breaking and grinding roller mills, separators, purifiers, dressing machines, and automatic weighers. For wheat requiring washing a well has been bored to a depth of 450 feet to ensure an ample supply of good water.

The buildings are protected against fire by a complete installation of automatic sprinklers, and a volunteer fire brigade has been formed from amongst the employees.

W. Cory & Son, Ltd., Silvertown, Erith, and Charlton.

An ample supply of cheap coal being an absolute necessity for the various industries to be carried on in the district, this firm, founded by William Cory, has done much to render such a supply possible. As soon as the Victoria Docks were opened in 1855, coaling stations were acquired within and near the entrance to the docks, and hydraulic cranes were installed for rapidly and economically discharging coal from the colliers. Before this time, seaborne coal had been carried in brigs, which were unloaded in the "Pool" below London Bridge by "whipping," a manual operation, which was much too slow and costly a method of discharging from the steam colliers, then beginning to supersede the brigs.

In addition to cranes, a floating wharf was built, and this was anchored in the river for the colliers to come alongside at any state of the tide, and no dock dues had to be paid.

The business of the firm has grown enormously and in 1896 an amalgamation was effected with other companies, the new company taking the present title.

Other floating wharves have been built, and the company has now a large fleet of colliers, many tugs and barges, as well as the largest barge building yard in the kingdom at Charlton.

The Deptford Pottery, Deptford.

This firm, one of the oldest established in Deptford, was noted for its " Deptford ware " in the earlier part of last century. " Deptford ware " is described in Jewett's " Ceramic Art in Great Britain " thus, " In the seventeenth century, existed at Deptford a pottery, where were manufactured melting pots (crucibles) ' the best in the world,' especially for founders. These were in great repute, and gradually superseded those imported from Holland, Germany, and Denmark."

Royal Observatory, Greenwich.

The Royal Observatory was founded in 1675 by Charles II. for the promotion of astronomy and navigation. Its site is on the hill rising in Greenwich Park behind the Hospital.

Flamsteed was appointed the first Astronomer Royal at a salary of £100 per annum, and he himself had to supply and make some of the equipment, as the Government did not supply a single instrument. Sir Jonas Moore presented several instruments, but on his death little or no support was given by the Admiralty.

Flamsteed began a valuable series of observations in 1689, with a mural arc, which he installed, and the first star catalogue was based on these observations. Lunar observations by him enabled Newton to verify his lunar theory.

Dr. Halley, Dr. Bradley, Dr. Bliss, Dr. Maskelyne, J. Pond, Sir G. B. Airey, and Sir W. H. Christie have been Astronomers Royal in succession, and by their valuable work they have kept the observatory well to the front.

Bradley, by his observations, laid the foundation of modern stellar astronomy, and the observatory reached a high pitch of excellence in Airey's day.

New buildings were erected in 1899, and the pavilion for the important magnetic observations started in 1838 was separated from the main buildings a quarter of a mile, to avoid the disturbance of the magnetic instruments due to iron in the new building.

The instrumental equipment has been greatly added to of late years, the great development of astronomical photography necessitating this increase.

Royal Victoria Yard, Deptford.

The Victualling Yard at Deptford was established by an Order in Council of the 23rd of March, 1742, owing to the storehouse accommodation on Little Tower Hill being insufficient. It was for many years called the "Red House," the site chosen being near a collection of warehouses built of red brick, of unknown date, but rebuilt in 1665 after destruction by fire. The ground, then about eleven acres in extent, had originally been granted by the Crown to the Evelyns of Wotton and Sayes Court, and was purchased by the Commissioners of Victualling for the sum of £10,000. Soon after its establishment the yard suffered severely from fire, being burnt down in 1748, the King's Mill, too, was burnt down in 1755, the New Storehouse in 1758, and the Red House in 1761. The present extensive row of storehouses was erected by Sir Charles Middleton, in 1780.

Additional land was taken in from time to time, so that at present the area is upwards of 19 acres, the last acquisition made in 1860 comprising a portion of the famous gardens of "Sylva" Evelyn. The whole area covered by it and the former Dockyard was about 35 acres.

The Yard received the name of "Royal Victoria Yard" in consequence of Queen Victoria's visit in 1858. It is the largest of the three Home Victualling Establishments, the others being at Gosport and Devonport. At the Yard are manufactured most of the provisions used in the navy—biscuit, chocolate, mustard, etc., and from it, too, the naval depôts abroad draw their supplies of clothing, food, tobacco, rum, and medical stores. As an objective for sight-seeing the Yard is not now attractive, except from the extensive capacity of its storehouses. The Museum in the Yard has been deprived of the greater part of its most interesting exhibits, but there is a large library relating to naval matters.

Deptford Dockyard.

Deptford Dockyard has an interesting history. It was first established in 1513 by Henry VIII., but previous to that date Deptford was famous for its shipbuilding. Whether Henry VIII. himself ever visited his dockyard is not recorded, but in 1549 we find mention made of a visit paid by Edward VI. Queen Elizabeth and James I. were both frequent visitors. In 1576, Francis Drake sailed from Deptford on the "Pelican," on his voyage round the world, and in 1581 Queen Elizabeth went down to the Dockyard to dine with Drake on board his ship, and conferred on him the honour of knighthood. Peter the Great worked for a while in the Yard as a shipwright, and during the Great Plague the office of the Admiralty was temporarily removed from Seething Lane.

The Dockyard was from its first establishment in constant use, not only as a building yard, but as a depôt for naval stores, until its closing in 1869, which was decided upon on the recommendation of a Committee of the House of Commons, which reported in 1864. This was necessitated through the increasing size of ships of war, which made the Yard practically useless for any but the smaller types of vessels, while, in addition, the docks and basins were being continually filled up by deposits of river mud, the removal of which rendered the work done in the Yard exceedingly costly. On the closing of the yard, a part was sold to Mr. Evelyn, who turned it into a recreation ground and presented it to the people of Deptford. A part was retained as a depôt for naval stores, and the remainder sold to the Corporation of London for a Metropolitan meat market, The frontage of the Dockyard to the Thames was about 1,700 feet in length. There were three slips for ships of the line, and two for smaller vessels, which launched into a basin or wet dock. There were also three dry docks, one of them a double one communicating with the river, the other opening into the basin. The number of men employed in the Yard in time of war was about 1500, one-half shipwrights and artificers, and the other half labourers.

PHOTOGRAPHY.

WOOLWICH AS A CENTRE FOR PHOTOGRAPHY.

J. Borthwick Panting, F.R.P.S.

Many people, strangers of course, have an idea that the locality is impossible from a camera point of view. Howbeit, this may arise from an all too prevailing notion, possessed by our camera friends, that, in strictly manufacturing centres, with their huge agglomerations of bricks and mortar, no place is to be found for the photographer. This, from the standpoint of the pictorial photographer, is generally true. But Woolwich furnishes a remarkable exception. The artistic worker will find here a wealth of good subjects. In the Crown Woods, on the side of Shooter's Hill, beautiful tree studies may be found. Again, on the lovely Bostall Heath, very fine pictures have been made from the graceful birches and bracken there, and exhibited at the leading photographic exhibitions. The pine-woods adjoining will always entice the exposure of a few plates. There is a fine view to be obtained from the corner of the Heath on the top of the hill looking down on St. Nicholas' Church, aided by fine sunset cloud effects in autumn; the distant river flows in sinuous lines through the view, with a silvery sheen upon its flowing tide; there is the hazy mist which has softened down the nearer mass of factories and strings of poorly built streets. All these carry the eye to the greater London beyond, which is suggested by the glimpses of St. Paul's Cathedral and the Tower Bridge as they are lined against the sky.

Woolwich is viewed at its best from the summit of Shooter's Hill, and there are many pleasant peeps from Shrewsbury Lane. A good view of the adjoining country is also to be obtained from the top of Eltham Common, Shooter's Hill, close by the Hospital Water Works, where at sunset fine effects are afforded of the undulating

country looking south-west. The scene is somewhat marred by the straightening of Well Hall Road immediately below, but the expert worker will know how to tone down that eyesore. Greenwich Park, still grand for its old trees, will well repay a visit from the man with the camera. Perhaps early spring and late autumn are the best times to go there for work.

But the production of pictures of scenery is but one aspect of the photographer's work.

There are innumerable ways in which he can assist all branches of science. Apart from highly specialised branches as, for example, the micro-photography of minute forms of life, there is the application of photography to illustrate industrial processes which, in the ever-increasing improvement of machinery are always liable to become methods of the past. To study and snapshot incidental scenes of industrial Woolwich may be the wish of many. Go then at the dinner hour to Beresford Square, and take stock of the workers flowing out of the Arsenal gates like armies of ants from their hills. Take records of the hucksters' stalls, for then it will be seen how many of the workers fare at their tables. Again, it is possible for the photographer to give invaluable aid to the study of archæology, ethnology, geography, geology, etc. Such work is not only interesting in itself, but would be of inestimable service in helping on the National Photographic Survey of the British Isles. The photographer who takes an interest in archæology will find much to interest him. At Well Hall will be found subjects not only interesting because of historical associations, but also on account of their pictorial possibilities. At Eltham there is the old Palace; for detail work the ruins are good. Every student of architecture has read of, if he has not seen, the fine perpendicular timber roof of the banqueting hall. St. Nicholas' Church, Plumstead, though closed at present owing to the recent explosion in the Arsenal, is worthy of attention. Doubtless the courtesy of the vicar will enable the visitor to study what yet remains of the early work here. There are the parish churches at Old Bexley, Erith, Dartford, and Stone. The last named is so well known as to need no special recommendation. It is one of the gems of thirteenth century work. The archæological features of the neighbouring borough of Greenwich are so well known that they warrant no further description; the magnificent work of Sir Christopher Wren, Inigo Jones, Hawksmoor, Vanbrugh, Ripley, and others at the Greenwich Hospital, speaks for itself, but perhaps it may not be thought amiss to draw special attention to the work of Sir John Vanbrugh. This painter, playwright, architect is seemingly not only responsible for the building of the Brass Foundry in Woolwich Arsenal, 1722–24, but at Greenwich and close by he was

very busy about 1717. And some of this notable work still stands, viz., a portion of Greenwich Hospital, Mince Pie House, and Vanbrugh Castle. Many other subjects will be suggested by the material in the other reports of this Handbook. The origin of Woolwich as a fishing village remains yet in evidence, as shown by the old cottages in High Street and Nile Street (near the Free Ferry).

The Woolwich Photographic Society, which was formed in 1892, is affiliated to the Royal Photographic Society, and also to the South Eastern Union of Scientific Societies. For some years past its members have been engaged in local survey and record work, and it is hoped that they will join in a renewed effort at the Congress to make the Photographic Survey Association of Kent take a leading place among the survey associations now engaged in carrying out a work of national importance. The Central or Standing Committee of the National Photographic Record Association receives all prints for the British Museum collection, and, if approved, mounts and deposits them in the British Museum. The material already collected by the Woolwich Photographic Society, and much more which it is hoped will be prepared as the outcome of this Congress, will in due course be placed at the disposal of the Borough authorities for preservation.

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